L 50339-65 EWT(d) IJP(c)

ACCESSION NR: AP5008352 S/0021/65/000/003/0296/0299

18
17
B

AUTHOR: Serhiyenko, I.V. (Sergiyenko, I.V.)

TITLE: A method of finding extremum solutions in one class of problems

SOURCE: AN UkrRSR. Dopovidi, no. 3, 1965, 296-299

TOPIC TAGS: automatic control, extremum solution, solution algorithm

16

ABSTRACT: Let there be given N_0 objects, among which there are N_2 ($N_2 \leqslant N_0$) types $E^1, \ldots, E^{N_2}$. Each object E^1 corresponds to a part of the i-th type, and it is required to process N_1 ($N_1 \leqslant N_0$) parts. Suppose that the set M is an ensemble of points z which are defined as follows: The point $z = z\{Q_1, \ldots, Q_{N_1}, n(1), \ldots, n(N_1)\}$ of the set M will be an ensemble of object locations $Q_1, Q_2, \ldots, Q_{N_1}$ and of integers $n(1), n(2), \ldots, n(N_1)$ if for every i ($1 \leqslant i \leqslant N_1$) Q_i are the locations of the object $E^{n(1)}$, if the locations Q_i are mutually compatible and if $H(Q_1, Q_2 \ldots Q_{N_1}) \geqslant 0$. The set M consists of all points z which correspond to all possible sequences $Q_1, Q_2, \ldots, Q_{N_1}$ and $n(1), n(2), \ldots, (N_1)$. A function f(z) si said to belong to the class F of functions if it is dependent only on numbers $n(1), n(2), \ldots, n(N_1)$ and on the quantity

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$K(Q_1 + Q_2 + \ldots + Q_{N_1})$, where all Q_i and n(i) correspond to the point z, and if for any fixed sequence $\{n(i)\}$ f(z) is a bounded, decaying and continuous function of $K(Q_1 + Q_2 + \ldots + Q_{N_1})$. To every point $z \in M$ there corresponds a defined sequence of loading of the processing machinery for N_1 parts. Thus, for each function f of the class F it is necessary to find a point z at which f(z) is optimized in some sense. Selecting, by various means, function f from F, one obtains a class $\mathfrak{P}$ of problems which should be investigated. Solution of the problem is based on the method presented by the author in an earlier paper (Avtomatika, 5, 15, 1964). If u(z) is designated as the vicinity of the point $z \in M$, i.e. u(z) is a set of points $z' \in M$ such that for some i ($1 \leqslant i \leqslant N_1$) and some real number $tn(j) = n'(j)$ $Q_j' = Q_j$ for all $j \neq i$ and $H(Q_j) < H(Q_j)$, and $Q_j' = u_t Q_j$ for $H(Q_j) > H(Q_i)$, then

$$u(z) = \bigcup_{i,n^z} V_{i,n^z}(z). \qquad (1)$$

and it can be shown that for the class of problems $\mathfrak{P}$ there exists a constructive algorithm for

$$r_{i,n^z}(z) = \delta(f(z) - \sup_{z' \in V_{i,n^z}(z)} f(z')). \qquad (2)$$

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which in the case of $r_{i,n^x}(z) = -1$ allows one to determine the point $z' \in V_{i,n^x}(z)$, where $f(z') > f(z)$ and where

$$s(x) = \begin{cases} -1 & \text{при } x < 0 \\ +1 & \text{при } x \geq 0. \end{cases} \quad (3)$$

If for all i, $n^x r_{i,n^x}(z_0) = 1$ then the point z_0 is the P-maximum of the function f and is the desired solution. A theorem shows that the computation scheme proposed above converges to a P-maximum in a finite number of iterations. Orig. art. has: 8 formulas.

ASSOCIATION: Instytut kibernetyky AN URSR (Institute of Cybernetics, AN URSR)

SUBMITTED: 23Jun64 ENCL: 00 SUB CODE: MA

NO REF SOV: 002 OTHER: 000

Card 3/3

SERGIYENKO, I.Z.

Conference on the problem "Carbohydrate chemistry and metabolism in animal and plant organisms." Izv. AN SSSR. Ser. biol. no.5: 622-625 S-O '58. (MIRA 11:10)
(CARBOHYDRATE METABOLISM)

SOV/ 30-58-6-30/45

AUTHOR: Sergiyenko, I. Z.

TITLE: The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms (Khimiya i obmen uglevodov v zhivotnom i rastitel'nom organizmakh) Conference in Moscow (Konferentsiya v Moskve)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 6, pp. 112-114 (USSR)

ABSTRACT: This conference took place from January 28 to January 30. It was organized by the Laboratory for Physiological Chemistry of the AS USSR and was attended by about 200 specialists, among them organochemists, biochemists, physiologists, pharmacologists, histologists and physicians who represented various scientific institutions of the AS USSR, of the Academy of Medical Sciences of the USSR, of the VASKhNIL, of a number of universities and other colleges, as well as of branch institutes from all the country. It was opened by the Director of the Laboratory for Physiological Chemistry B. N. Stepanenko. He stressed in his detailed report among other things the great theoretical interest in the investigation of the ab-

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The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms. Conference in Moscow

solute formation of simple carbohydrates. New and great success was achieved in the field of the O- and N-glycosides. He reported on some important results of the work in laboratories. Furthermore the following reports were heard:

1) S. N. Danilov: On the reaction of the simultaneous oxidation and regeneration in a group of carbohydrates.

2) Yu. A. Zhdanov: On the use of different methods of synthesis.

3) B. N. Stepanenko, L. K. Kryukova, O. G. Serdyuk: On investigations carried out in the field of some O- and N-glycosides.

4) O. K. Orlova: On 2 new diphtheria bacilli.

5) Ye. K. Alimova: On carbohydrates in the structure of diphtheria bacilli.

6) S. A. Neyfakh and M. P. Mel'nikova: On enzymatic members.

7) V. S. Il'in: On the importance of hexokinase reaction.

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms. Conference in Moscow

8) N. K. Nagradova: On the properties of the effect of the dehydrase of phosphorus-glycerin aldehyde.

9) A. P. Barkhash: On the method of the conversion of glucose.

10) A. N. Petrov: On the presence of a phosphorus-less method of synthesis in the liver.

11) M. I. Prokhorova and Z. N. Tupikova: On the intensity of the carbohydrate metabolism in organs.

12) B. I. Khaykina: On the velocity of the regeneration of free and bound glycogene fractions.

13) Ye. L. Rozenfel'd: On the function of animal organisms.

14) M. G. Shubich: On the results of the histochemical investigation of the glycogene of muscular tissue.

15) R. A. Rutberg: On the importance of polysaccharides in the investigation of the blood system.

16) G. Ya. Rozenberg and T. V. Polyshina: On the production, the

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms. Conference in Moscow

properties and characteristics of Soviet dextrin.

17) A. N. Petrova: On the problems of the pathology of carbohydrate metabolism.

18) S. M. Leytes and N. T. Smirnova: On the effect of the antidiabetic preparation BZ-55.

19) A. V. Kotel'nikova and G. D. Krechetova: On special problems of the pathology of carbohydrate metabolism.

20) B. N. Stepanenko, Ye. M. Afanas'yeva and R. A. Baksova: On the chemical nature of a new polysaccharide.

21) O. A. Pavlikova and M. V. Turkina: On conversions of saccharose in plant tissues.

22) D. I. Lisitsin, M. S. Bardinskaya, M. I. Smirnova-Ikonnikova, Yu. V. Peruanskiy, G. A. Lukovnikova and V. I. Ivanov : On carbohydrates of plant origin.

In the resolution the achievements as well as the shortcomings were mentioned. A commission for the coordination of work was founded.

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms. Conference in Moscow SOV/30-58-6-30/45

1. Carbohydrates--Biosynthesis 2. Carbohydrates--Metabolism 3. Carbohydrates --Chemical properties 4. Animals--Physiology 5. Plants--Physiology

Card 5/5

POZHIDAYEV, Nikolay Nikolayevich, dotsent; PAVLOV, Anatoliy Ivanovich, dotsent; VADIMOVICH, Ivan Ivanovich, dotsent; KOVAL'SKIY, Anatoliy Grigor'yevich, inzh.; ZORUK, Vladimir Luk'yanovich, inzh.; ANOKHIN, Viktor Vasil'yevich, inzh.; SERGIYENKO, L., red.; BONDARENKO, O., red.; GUSAROV, K., tekhn.red.

[Textile materials for the clothing industry] Materialovedenie shveinogo proizvodstva. Pod obshchei red. N.N.Pozhidaeva. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1959. 411 p. (MIRA 13:2)
(Clothing industry) (Textile fabrics)

SERGIYENKO, L., inzh.; KOCHAN, L., inzh.; GUZHVA, G.; KLIMOV, L.; KHMELEVA, L.

No, these are not trifles! Okhr.truda i sots.strakh. no.10: 39-41 O '59. (MIRA 13:2)

1. Korrespondenty gazety "Vitebskiy rabochiy" (for Guzhva, Klimov). 2. Spetsial'nyy korrespondent zhurnala "Okhrana truda i sotsial'noye strakhovaniye" for (Khmeleva).
(Vitebsk Province--Industrial hygiene)

YEREMENKO, Boris Antonovich; BARABANOVA, Kseniya Aleksandrovna; SUSOROV, Boris Grigor'yevich; FREPON, Nikolay Raymondovich; TSENZURA, Aleksandr Ivanovich; LOSEVA, R., red.; SERGIYENKO, L., red.; SHAFETA, S., tekhn.red.

[Automatic control of the processes of beet-sugar manufacture] Avtomatizatsiia protsessov sveklosakharnogo proizvodstva. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1960. 133 p. (MIRA 13:8)
(Sugar manufacture) (Automatic control)

[illegible], Yuriy [illegible]; LEBEDINSKAYA, [illegible] Abramovna; [illegible], S[illegible]ya Mikhaylovna; SERGIYENKO, Lyudmila Andreyevna; [illegible], [illegible] Moiseyevna; SHAGIN[illegible], Valentina Fedorovna; YENIKOLOPOV, N.S., doktor khim. nauk, retsenzent

[Polyformaldehyde] Poliformal'degid. Kiev, Tekhnika, 196[illegible]. 90 p. (MIRA 18:[illegible])

SERGIYENKO, L. F.

Synthesis of farnesol and farnesal. I. K. Sarycheva, N. G. Morozova, V. A. Abramovich, S. A. Breitburt, L. F. Sergienko, and N. A. Preobrazhenskii. *J. Gen. Chem. U.S.S.R.* 25, 1949–53(1955)(Engl. translation).—See *C.A.* 50, 8414i.

B. M. R.

SERGIYENKO, L.F.

Synthesis of farnesol and farnesal. L. K. Sarycheva, N. G. Morozova, V. A. Abramovich, S. A. Breitburt, L. F. Sergienko, and N. A. Preobrazhenskii (Inst. Fine Chem. Technol., Moscow). *Zhur. Obshchei Khim.* 25, 2001–6 (1955); cf. Kerschbaum, *C.A.* 7, 2753; Ruzicka, *C.A.* 17, 2419.—To MeMgI from 47.42 g. Mg in Et_2O there was added at 0° 88 g. $AcCH_2CH_2CH_2OH$ in Et_2O and after 8 hrs. at room temp. the mixt. was decompd. with ice-20% AcOH, yielding 51.4% $Me_2C(OH)(CH_2)_2OH$, b_{14} 120–7°, d_{20} 0.9645, n_D^{20} 1.4492. This (21.2 g.) in dry C_6H_6 was treated with ice cooling with 40.6 g. PBr_3 in 40 ml. C_6H_6 and the mixt. kept 3 hrs. on a steam bath and treated with ice, yielding 56.1% *di-Br analog*, b_{20} 94–5°, d_{20} 1.5400, n_D^{20} 1.4888, which darkens in air. This (23.8 g.) and 7.8 g. pyridine heated 2 hrs. at 60–70° in partial vacuum (150 mm.), and the mixt. cooled and filtered gave on distn. 76.4% $Me_2C{:}CHCH_2CH_2Br$, b_{100} 96°, d_4 1.2172, n_D^{20} 1.4720. This (8 g.) in Et_2O was added to 1.2 g. Mg and the Grignard reagent was treated at 0° with 3.43 g. $ArCH{:}CH_2$ in Et_2O over 0.5 hr.; after 2 hrs. at room temp. the mixt. was treated with ice-20% AcOH and extd. with Et_2O, yielding 20.3% *linalool*, b_{20} 128–30°, d_{20} 0.8724, n_D^{20} 1.4625. This (100 g.) in 30 ml. MeOH brought to reflux and treated 2 hrs.

(over)

Syn of farnesol and farnesal

with dry HCl yielded 87.5% *geranyl chloride*, b_{17} 105–10°, d_{20} 0.9315, n_D^{20} 1.4792. EtONa from 11.73 g. Na and 200 ml. EtOH was treated with 66.37 g. $AcCH_2CO_2Et$, followed after 1 hr. by 88.08 g. geranyl chloride, at 24–30 drops per min., after which the mixt. was refluxed until it became neutral to litmus; treatment with 150 ml. H_2O and refluxing with 42.9 g. $Ba(OH)_2$ 8 hrs. gave a ppt. of the Ba salt of geranylacetoacetic ester, which was treated with 20% HCl and extd. with Et_2O to yield 79.6% *α,β-dihydropseudoionone*, b_{11} 136–8°, d_{20} 0.8812, n_D^{20} 1.4690. This (38.86 g.) mixed with 24.4 g. $ClCH_2CO_2Et$ in C_6H_6 was added to 4.86 g. Mg in refluxing C_6H_6; after refluxing 1 hr. and cooling, the mixt. treated with 10% HCl gave *crude Et β-hydroxydihydrofarnesolate* (I), b_{12} 163–70°, which had undergone dehydration. I (6.7 g.) in C_6H_6 was treated dropwise with 2.5 g. $POCl_3$ in 16 ml. pyridine and the mixt. refluxed 45 min., cooled, and quenched in H_2O; the org. layer was washed with $NaHCO_3$ and distd., yielding 4.8 g. *Et farnesolate*, $C_{17}H_{28}O_2$, b_{10} 162–4°, d_{20} 0.9239, n_D^{20} 1.4792. This (2.6 g.) in Et_2O was added to 0.33 g. $LiAlH_4$ in Et_2O at −50° and stirred 1 hr. at −30°, yielding after treatment with H_2O 84% *farnesol*, b_3 142–3°, d_{20} 0.9016, n_D^{20} 1.4887, which treated with AcCl in pyridine-C_6H_6 with ice cooling 8 hrs. gave 70.1% *acetate*, b_2 105–7°, d_{20} 0.9247, n_D^{20} 1.4770. Shaking 1.33 g. farnesol with 100 ml. petr. ether and 10 g. activated MnO_2 4 hrs. gave 62.1% *farnesal*, b_3 105–6°, d_{20} 0.8999, n_D^{20} 1.4811; *semicarbazone*, m. 136–7°.

G. M. Kosolapoff

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SERGIYENKO, L. F.

S 3610 2209

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S/020/62/142/002/020/029
B106/B101

AUTHORS: Ginsburg, V. A., Yakubovich, A. Ya., Filatov, A. S., Zelenin, G. Ye., Mazarov, S. P., Shpanskiy, V. A., Kotel'nikova, G. P., Sergiyenko, L. F., and Martynova, L. L.

TITLE: Heterolytic transformations of polyfluorinated azoalkanes

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 2, 1962, 354-357

TEXT: A number of heterolytic transformations of polyfluorinated azoalkanes was discovered for the first time. The said azoalkanes, while being highly resistant to oxidizing agents, easily react with reducers (HI, H_2S, H_3P) in polar media (ether, methanol) at low temperatures, whereby the azo group is converted into the hydrazo group. Hexafluoro hydrazomethane presents acid properties and is relatively stable in the solvate form in ether or acetone. The etherate reacts with ketene, and the normal diacyl derivative is formed as a result. Hydrogen fluoride is readily separated from hexafluoro hydrazomethane under the action of bases:

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B106/B101

Heterolytic transformations of...

$$CF_3NH\,NHCF_3 \left|\begin{array}{l} C_6H_5NH_2 \\ \hline C_6H_5SH \end{array}\right. \begin{array}{l} (C_6H_5NH)_2C{=}N{-}N{=}C(NHC_6H_5)_2 \\ \hline (C_6H_5S)_2C{=}N{-}N{=}C(SC_6H_5)_2 \end{array}$$

Hexafluoro hydrazomethane reacts with aluminum chloride to form the dimer of tetrafluoro formazine, and, if oxidized in anhydrous media ($KMnO_4$ + CH_3COOH), it passes over to the intensively yellow cis-form of hexafluorazo methane, which readily takes the almost colorless trans-form under the action of light, alkali lyes, or metals. In the reduction of azoalkanes which contain the groups CF_2Cl or R_fCF_2, the corresponding hydrazo compounds cannot be isolated, due to hydrolysis. The compound $CF_3NHNHC_6H_5$ can be distilled in vacuo (b.p.56°C/1 mm Hg), and passes over to indazole under the action of hydrogen iodide. Under the action of strong acids, the azo group of polyfluorazo alkanes is able to add one proton which, in the case of asymmetric azoalkanes, is added to the nitrogen atom adjoining the more electronegative substituent. These reactions take place most readily in anhydrous hydrofluoric acid, whereby polyfluorazo alkanes are dimerized into benzidine derivatives. Poly-

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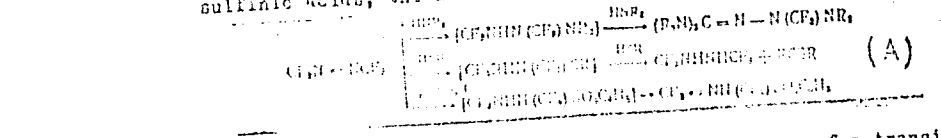
S/020/62/142/002/020/029
B106/B101

Heterolytic transformations of...

fluorinated azo compounds are particularly sensitive to nucleophilic reagents. The reaction rate with amines grows with the amine basicity, and the reactivity in azo compounds of the type $CF_3N{=}NR$ drops in the sequence $R{-}CF_3 > CF_2H > CH_3$. With secondary amines, mercaptans, and sulfinic acids, the azo compounds react as follows:



(A)

These conversions probably begin with the formation of a transition complex of the type of a π-complex, e. g., $CF_3N{=}NCF_3 \cdot \overset{\cdot\cdot}{\underset{HNR_2}{}}$. This assumption is backed by the fact that the transition complex, in the reaction of hexafluorazo methane with trialkyl phosphites, can be isolated under mild

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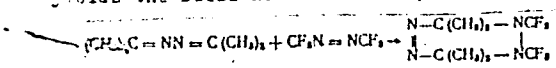
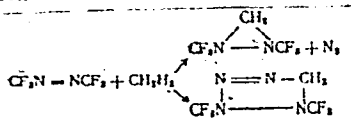
Heterolytic transformations of...

conditions (cooling with dry ice). On heating, the adduct decomposes to nitrogen, tetrafluoro ethylene, diethyl ether, ethyl fluoride, diethyl fluoro phosphite, and diethyl ethane phosphinate. In analogy to azodicarboxylic acid esters, hexafluorazo methane with dienes readily yields the Diels-Alder addition, reacts with azines according to the scheme



and with diazomethane as follows:



Hexafluorazo methane reacts smoothly with organo-magnesium compounds at low temperatures and forms the hitherto unknown acid fluorides of

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Heterolytic transformations of...

polyfluoro alkyl-(aryl)-hydrazine carboxylic acids $CF_3N(R)NHCOF$, from which a number of further derivatives was obtained:

$$CF_3N(R)NHCOF \xrightarrow{NH_3} CF_3N(R)NHCONH_2$$
$$\xrightarrow{C_6H_5NH_2} CF_3N(R)NHCONHC_6H_5$$
$$\xrightarrow{NaOCH_3} CF_3N(R)NHCO_2CH_3$$
$$\xrightarrow{HCl,H_2O} RNHNH_2 + 2CO_2 + 4HF$$

There are 1 table and 3 references: 2 Soviet and 1 non-Soviet.

PRESENTED: June 1, 1961, by I. L. Knunyants, Academician, and M. I. Kabachnik, Academician

SUBMITTED: June 1, 1961

Table 1. Compounds synthesized for the first time.
Legend: (a) compound; (b) boiling point; (c) melting point; (d) does not melt below 300°C.

Card 5/[illegible]

GINSBURG, V.A.; YAKUBOVICH, A.Ya.; FILATOV, A.S.; SHPANSKIY, V.A.; VLASOVA, Yo.S.; ZELENIN, G.Yo.; SERGIYENKO, L.F.; MARTYNOVA, L.L.; MAKAROV, S.P.

Production, pyrolysis, and photolysis of polyfluorinated azo compounds of the aliphatic series. Dokl. AN SSSR 142 no.1:88-91 Ja '62. (MIRA 14:12)

1. Predstavleno akademikami I.L. Knunyantsem i M.I. Kabachnikom.
(Azo compounds) (Fluorination)

VEPRINSKIY, M. [Vepryns'kyi, M.]; SERGIYENKO, M.

There will be thriving collective farm cities. Znan.ta pratsia no.1:2-4 Ja '60. (MIRA 13:5)
(Ukraine--City planning)

SERGIYENKO, M.I. [Serhiienko, M.I.]

Materials on the species of trematodes and cestodes in water and swamp birds of the upper Dniester Valley. Nauk. zap. Nauk.-pryrod. muz. AN URSR 10:97-100 '62. (MIRA 16:8)

SERGIYENKO, M.M.

Scientific and technical co-operation of the Soviet Union with the countries of Asia and Africa in the field of geology."

Report submitted to the Conf. on the Application of Science and Technology for the Benefit of the Less Developed Areas.
Geneva, Switzerland 4-20 February 1963

M

USSR / Cultivated Plants. Plants for Technical Use.
Oil Plants. Sugar Plants.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 25000

Author : Sergiyenko, M. P.
Inst : Altay Agricultural Institute
Title : Progressive Methods for the Cultivation of the Sugar Beet

Orig Pub : Sb. stud. nauchn. rabot Altaysk. s.-kh. in-t, 1957, vyp 6, 17-24

Abstract : Experimental results on the determination of the optimal nutrition area for the sugar beet with the least expenditure of manual labor, under the conditions of the Altayskiy Kray's steppe zone, are submitted. The experiments were conducted in 1956 on the field of Mamontov Division of the Aleysk Sugar

Card 1/2

M

USSR / Cultivated Plants. Plants for Technical Use.
Oil Plants. Sugar Plants.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 25000

Combine. The largest root crops and sugar yield were obtained at a square sowing of the sugar beet by leaving the plants in rows at a distance of 44.5 cm. -- B. L. Klyachko-Gurvich

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SERGIYENKO, N.

SERGIEYNKO, N.,

We prepare apartment houses for the fall and winter season ahead of time. Zhil.-kom. khoz. 7 no.5:10-12 '57. (MLRA 10:6)
(Tula--Apartment houses--Maintenance and repair)

GRACHEV, A.V., elektr[illegible]; [illegible], [illegible]; [illegible]-
shchik, SHAGO[illegible], B.E., red.

[Public bureau of technical standards] Obshchestvennoe biuro tekhnicheskogo normirovaniia. Volgograd, Volgogradskoe knizhnoe izd-vo, 1963. 18 p. (MIRA 18:2)

POLYAKOV, P.V., inzh.; KARAKAY, P.A., inzh.; SERGIYENKO, N.M.

Automatic regulator for the feeding of a screw press. Masl.-zhir. prom. 26 no.10:32-34 O '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for Polyakov).
2. Krasnodarskiy maslozhirovoy kombinat (for Karakay, Sergiyenko).
(Power presses) (Automatic control)

LYSAKOVSKIY, G.I., kand.tekhn.nauk; SERGIYENKO, N.M., inzh.

Use of glass suspension insulators on overhead power transmission lines. Elek. sta. 31 no.12:77-78 D '60. (MIRA 14:5)
(Electric insulators and insulation)
(Electric lines--Overhead)

KARAKAY, P.A., inzh.; SERGIYENKO, N.M.

Remote measurement of a level in open tanks. Masl.-zhir.prom. 28 no.7:40-41 Jl '62. (MIRA 15:11)

1. Krasnodarskiy maslozhirovoy kombinat imeni V.V. Kuybysheva.
(Krasnodarsk--Oils and fats--Storage)
(Liquid level indicators)

SERGIYENKO, N.M.

Resolving capacity of the eye. Vest. oft. 76 no.3:39-44 My-Je '63. (MIRA 17:2)

1. Kafedra glaznykh bolezney (zav. - prof. L.B. Zats) Donetskogo meditsinskogo instituta.

BETECHEVA, Ye.I.; SERGIYENKO, N.I.

Morphology of the stomach and intestines of toothed whales. Zool. zhur. 43 no.6:918-926 '64. (MIRA 17:12)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.

L 8956-66

ACC NR: AP5026520 SOURCE CODE: UR/0286/65/000/019/0051/0051

AUTHOR: Sergiyenko, N. M.

ORG: none

TITLE: Device for determination of acuity of vision. Class 30, No. 175170

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 51

TOPIC TAGS: vision, optometry, optic instrument, measuring instrument

ABSTRACT: This Author Certificate describes a device for determining acuity of vision. The device consists of two compartments and contains a reading scale and light bulbs for the illumination of the slit diaphragms (see Fig. 1).

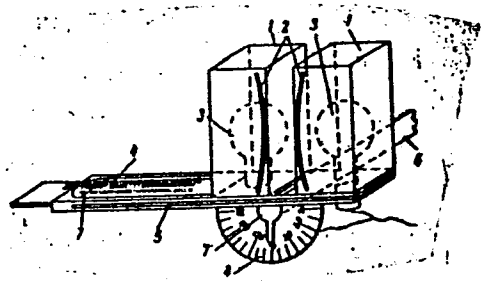


Fig. 1. 1 - Compartment; 2 - slit diaphragms; 3 - light bulbs; 4 - scales; 5 - mechanism for displacement of compartments; 6 - mechanism for turning of compartments; 7 - indices.

Card 1/2 UDC: 615.471:617.751—072.7

L 8956-66

ACC NR: AP5026520

To alter the distance between the two illuminated slit diaphragms, a displacement mechanism is mounted inside the device. This mechanism displaces one compartment in relation to the other, the latter being held in a fixed position. The acuity of vision is read off a scale. To determine the acuity of vision in various meridians, the device is equipped with a turning mechanism which permits rotating the compartments containing the illuminated slits through an angle of ± 90 degrees. The angle of turn may be determined with an attached circular scale. Orig. art. has: 1 figure.

SUB CODE: 14, 06/ SUBM DATE: 03Jun60

BYK

Card 2/2

SERGIYENKO, N.V., Inzh.otdela puti otdeleniya dorogi, (Stantsiya Kazatin, Yugo-Zapadnoy dorogi)
Grass control. Put' i put.khoz. 5 no.9:28-29 S '61. (MIRA 14:10)
(Railroads--Equipment and supplies)

AUTHOR: Sergiyenko, N.Ye., Engineer SOV-135-58-10-19/19

TITLE: Use of Glycerin in Electrode Coatings (Primeneniye glitserina v elektrodnykh pokrytiyakh)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 10, p 47 (USSR)

ABSTRACT: Sodium silicate solution as a deactivating material in electrode coating has been replaced by glycerin. A small quantity of glycerin added to ferroalloys increases the fermentation resistance of the deactivated ferroalloys by 4 times. The resistance of non-deactivated ferroalloys containing 0.5 to 1.0% glycerin, is equal to that of ferroalloys deactivated by conventional methods, (based on data given by A.A. Alov). The use of glycerin in the production of electrodes proved satisfactory in practical use.

ASSOCIATION: Zavod imeni Malysheva (Plant imeni Malyshev)

1. Arc welding--Electrodes 2. Electrodes--Coatings 3. Dithioglycerol--Applications

Card 1/1

USCOMM-DC-55608

25 (1) SOV/135-59-4-11/18

AUTHOR: Sergiyenko, N. Ye., Engineer

TITLE: The Multiple Utilization of Slag Crust in Automatic Welding (Mnogokratnoye ispol'zovaniye shlakovoy korki pri avtomaticheskoy svarke)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 4, pp 40 - 41 (USSR)

ABSTRACT: Used flux in the form of slag crust is usually cast away as refuse. In experiments at the author's plant, carried cut with standard acid flux AN-348-A, basic flux AN-22 and two kinds of electrode wire (low-carbon "Sv-08A" and "Kh20N10G6T"), the crust was remelted and reused as flux two and three times with the results shown in tables. This showed that the flux composition changes only slightly and even results in a slight improvement in the mechanical properties of weld metal deposited during the use of re-used flux. It is pointed out that the author's plant has been utilizing slag crust for three years and never received complaints on the quality of welds. D. G. Lima-renko assisted the author.

Card 1/2

The Multiple Utilization of Slag Crust in Automatic Welding

There are 4 tables.

ASSOCIATION: Khar'kovskiy zavod imeni Malysheva (Khar'kov plant imeni Malyshev).

SERGIYENKO, N.Ye., inzh.; KATRECHKO, V.I., inzh.; YEVDOKIMOV, K.K., inzh.; LIMARENKO, D.G., inzh.

Utilization of the slag crust from welding fluxes in automatic welding. Svar. proizv. no.4:31-33 Ap '63. (MIRA 16:5)

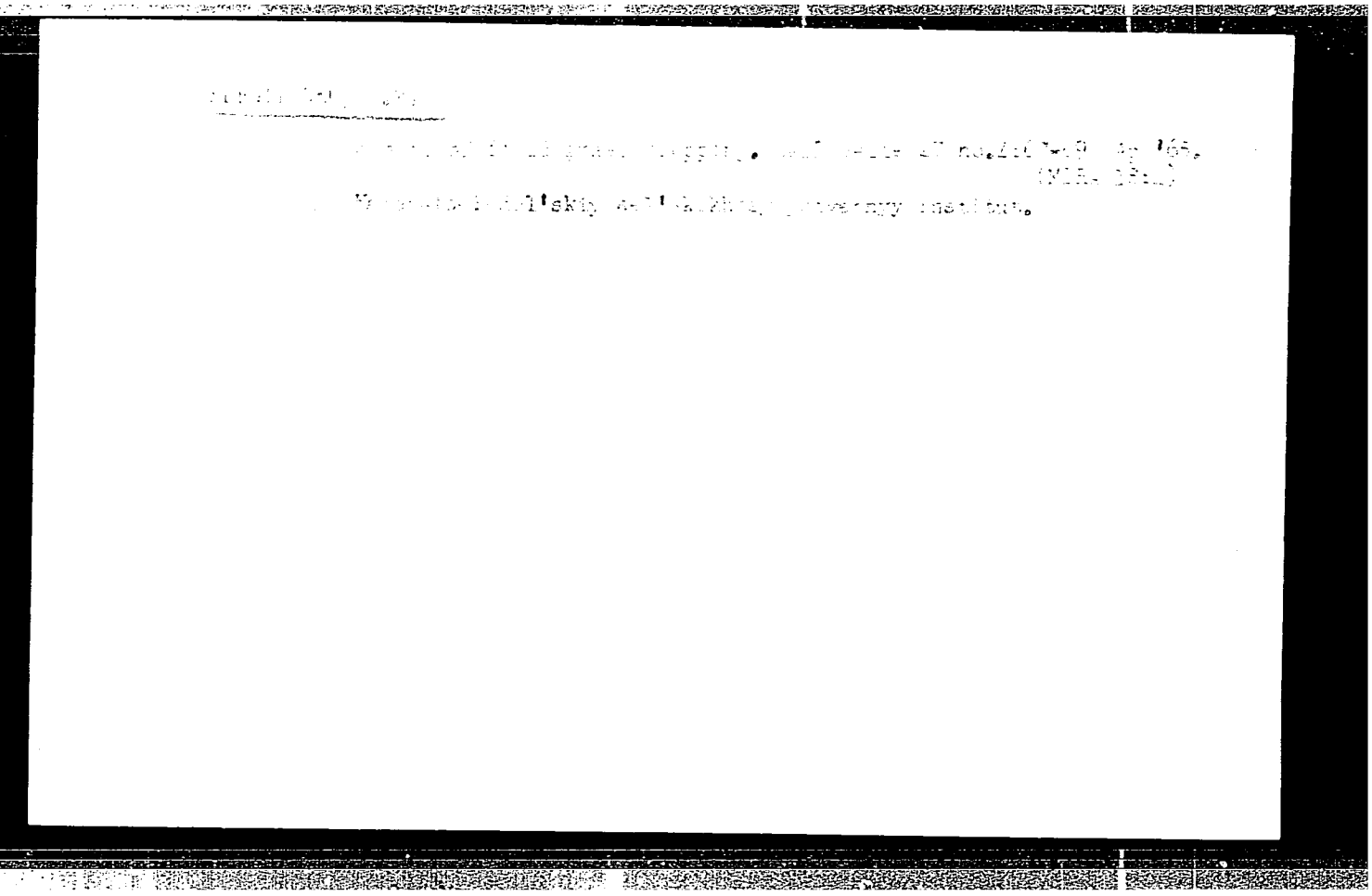
1. Zavod transportnogo mashinostroyeniya im. Malysheva.
(Electric welding) (Flux (Metallurgy))

SERGIYENKO, P.

Wider dissemination of progressive practices. Mast.ugl.4 no.8:3 Ag'55. (MLRA 8:10)

1. Nachal'nik uchastka shakhty no.1 "Kamenetskaya" kombinata Moskvougol'

(Moscow Basin--Coal mines and mining)



SERGIYENKO, Pavel Nikolayevich, GUROV, S., redaktor; YAKOVLEVA, Ye., tekhnicheskiy redaktor.

[Coal mining around the clock] Dobycha uglia po grafiku tsiklichnosti. [Moskva] Moskovskii rabochii, 1955. 63 p. (MLRA 9:4)

1.Nachal'nik uchastka shakhty 1-ya Kamenetskaya.
(Coal mines and mining)

GEL'GIYENKO, Pavel Sergeyevich; [illegible], I.V., red.

[Fourth cascade production line; "Big chemistry" has come to Omsk] Chetvertyi kaskad; v Omsk prishla bol'shaia khimiia. Omsk, Omskoe knizhnoe izd-vo, 1963. 94 p. (MIRA 17:8)

SERGIYENKO, P.V., assistent (Ivanovo)

Albumin-globulin and phagocytic coefficients in chronic paranasal sinusitis. Kaz.med.zhur. 40 no.5:120-121 S-O '59. (MIRA 13:7)

(BLOOD PROTEINS) (PHAGOCYTOSIS) (SINUSITIS)

SERGIYENKO, P. V.

Late results of surgical treatment in chronic inflammatory diseases of the maxillary sinus. Vest. otorin. no.3:50-53 '62. (MIRA 15:6)

1. Iz kafedry bolezney ukha, nosa i gorla (i. o. zav. - dotsent S. B. Glauberman) Voronezhskogo meditsinskogo instituta i iz kafedry bolezney ukha, nosa i gorla (zav. - prof. K. G. Borshchev) Ivanovskogo meditsinskogo instituta.

(MAXILLARY SINUS--DISEASES)

SERGIYENKO, P.V.

Microflora and its sensitivity to antibiotics in chronic highmoritis. Zhur.ush., nos.i gorl.bol. 22 no.2:8-11 Mr-Ap '62. (MIRA 15:11)

1. Iz kafedry bolezney ukha, gorla i nosa (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent S.B.Glauberman) Voronezhskogo meditsinskogo instituta.

(MAXILLARY SINUS--DISEASES) (ANTIBIOTICS)

33169
S/148/61/000/011/014/018
E193/E383

9,3100 (1001, 1153, 1385)

AUTHORS: Mes'kin, V.S., Sergiyenko, R.I., Popova, L.A. and Freydel', R.R.

TITLE: Search for corrosion- and wear-resistant alloys for precision electrical resistance devices

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 11, 1961, 159 - 164

TEXT: The conventional electrical resistance alloys, exemplified by manganin and similar Cu-Ni-Mn alloys, although satisfactory from the point of view of the electrical properties, have a low resistance to the action of some corrosive media (sulphur-bearing or ammoniacal atmospheres) and are not always suitable for service in tropical or marine surroundings. A hard-wearing alloy free from these limitations, would solve many design problems and it was for this reason that the present investigation, concerned with Pd-W and Pd-Mo alloys, was undertaken. The experimental specimens were prepared by drawing molten alloys into quartz tubes (2.3 - 3 mm in diameter), preheated to 800 °C and swaging the resultant rods to 1.2 - 1.5 mm

Card 1/8 5

Search for corrosion-and ....

in diameter. After a series of exploratory measurements, alloys of practical interest were drawn to wires 0.2 - 0.25 mm in diameter which were then used for the determination of electrical resistivity, ρ, temperature coefficient of electrical resistance, α_t, and thermo-emf against copper, E. The measurements were taken on specimens either cold-worked to approx. 50% reduction or vacuum-annealed. The results are reproduced graphically.

In Fig. 1, ρ (ohm mm^2/m, graph a), α_t (x 10^4, graph b) and E ($\mu V/^oC$, graph c) are plotted against the W content (wt.%) in the Pd-W alloys, vacuum-annealed at 700 °C; the curve in Fig. 1 has been divided into two branches, scale on the right-hand side relating to branch 1; experimental points denoted by circles had been obtained earlier (Ref. 1: V.A. Nemilov, A.A. Rudnitskiy - Izvestiya sektora platiny IONKh AN SSSR, 1949 no.23, 101). Since the temperature-dependence of ρ in the 15 - 90 °C range was linear, data reproduced in Fig. 1,

Card 2/8

relate the entire 15 - 90 °C range. The concentration dependence of ρ, α_0 and E of the Pd-Mo alloys is demonstrated in a similar manner in Fig. 3a, b and c, respectively. It will be seen that in respect of their electrical properties the Pd-Mo alloys are inferior to Pd-W alloys. Since, in addition, they have some other shortcomings, the most promising of the Pd-W alloys (i.e. the 20% W-Pd alloy) denoted by a code mark VS 20 (PV20) was selected for further tests. The results of contact resistance measurements, carried out on wires 0.25 mm diameter, are reproduced in Fig. 4, where the contact resistance (ohm) is plotted against the contact pressure (g). Curves 1-5 relating to the following experimental conditions: 1 - PV20 in contact with itself (both wires vacuum-annealed at 800 °C); 2 - manganin in contact with manganin; 3 - PV20 in contact with PV20; both specimens preliminarily held for 24 h in a sulphurous atmosphere (0.02 g of SO_2 per 1 dm^3 of air); 4 - PV20 in contact with PV20; both wires preliminarily held for 24 h at 55-60 °C

4

Search for corrosion- and ....

in air of 98% humidity; 5 - PV20 in contact with PV20, both wires preliminarily held for 36 h in a 25% ammonia solution (it is stated in this connection that contact resistance between manganin wires held preliminarily for 24 h in ammonia solution was infinitely large). In the next series of experiments the stability of ρ was studied. The specimens were heated in air at 100 °C for 3 h and after a 24 h interval their ρ at room temperature was measured, this treatment being repeated several times. The results are reproduced in Fig. 5, where the change in resistivity (%) due to cyclic heating is plotted against the total time (hours) at 100 °C. Curves 1 - 3 relating to various PV20 specimens. Curve 4 to manganin (the effect of similar treatment in boiling water was more pronounced, the increase in ρ of PV20 after 25 cycles amounting to 1.75%). Since after cyclic heating of the PV20 alloy its ρ at room temperature remained practically constant, this treatment should provide effective means of stabilizing ρ of this alloy. UTS and elongation of PV20 were respectively. 133 kg/mm^2 and 1% in

Card 4/6 5

4

the cold-worked condition, and 83.2 kg/mm^2 and 25.3% after annealing. Wear-resistance of this alloy was also found to be much better than that of manganin. It was concluded that high strength combined with good wear- and corrosion-resistance render the PV20 alloy suitable for some applications. Since, however, this alloy is inferior to manganin in respect of its electrical properties (α and E), search should be continued for a material with better electrical properties which, at the same time, would be cheaper and easier to produce.
There are 5 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Leningradskiy institut aviatsionnogo pribor-ostroyeniya i zavod "Lenteplopribor"
(Leningrad Institute of Aviation Instruments and "Lenteplopribor" Works)

SUBMITTED: February 22, 1961

MES'KIN, V.S.; SERGIYENKO, R.I.; POPOVA, L.A.

Anomaly of electric resistance and K-state formation in systems palladium - tungsten, and palladium - molybdemum. Fiz.met.i metalloved. 13 no.1:126-131 Ja '62. (MIRA 15:3)
(Palladium alloys--Electric properties)
(Metals at low temperatures)

35951
S/126/62/013/001/012/018
E193/E383

18.1180

AUTHORS: Mes'kin, V.S., Sergiyenko, R.I. and Popova, L.A.

TITLE: Anomalous electrical resistivity and formation of the K-state in palladian-tungsten and palladian-molybdenum systems

PERIODICAL: Fizika metallov i metallovedeniye, v. 13, no. 1, 1962, 126 - 131

TEXT: One of the main manifestations of the formation of the K-state in an alloy consists of the fact that the electrical resistance of the alloy increases after annealing and decreases after cold plastic deformation or quenching from sufficiently high temperature. These effects were observed by the present authors in palladian-tungsten and palladian-molybdenum alloys whose properties they had studied in connection with a search for corrosion-resistant alloys which could be used as high-precision resistance materials. Those results of this investigation which relate to annealing-induced anomalous variation of electrical resistance and other properties are reported in the

Card 1/5

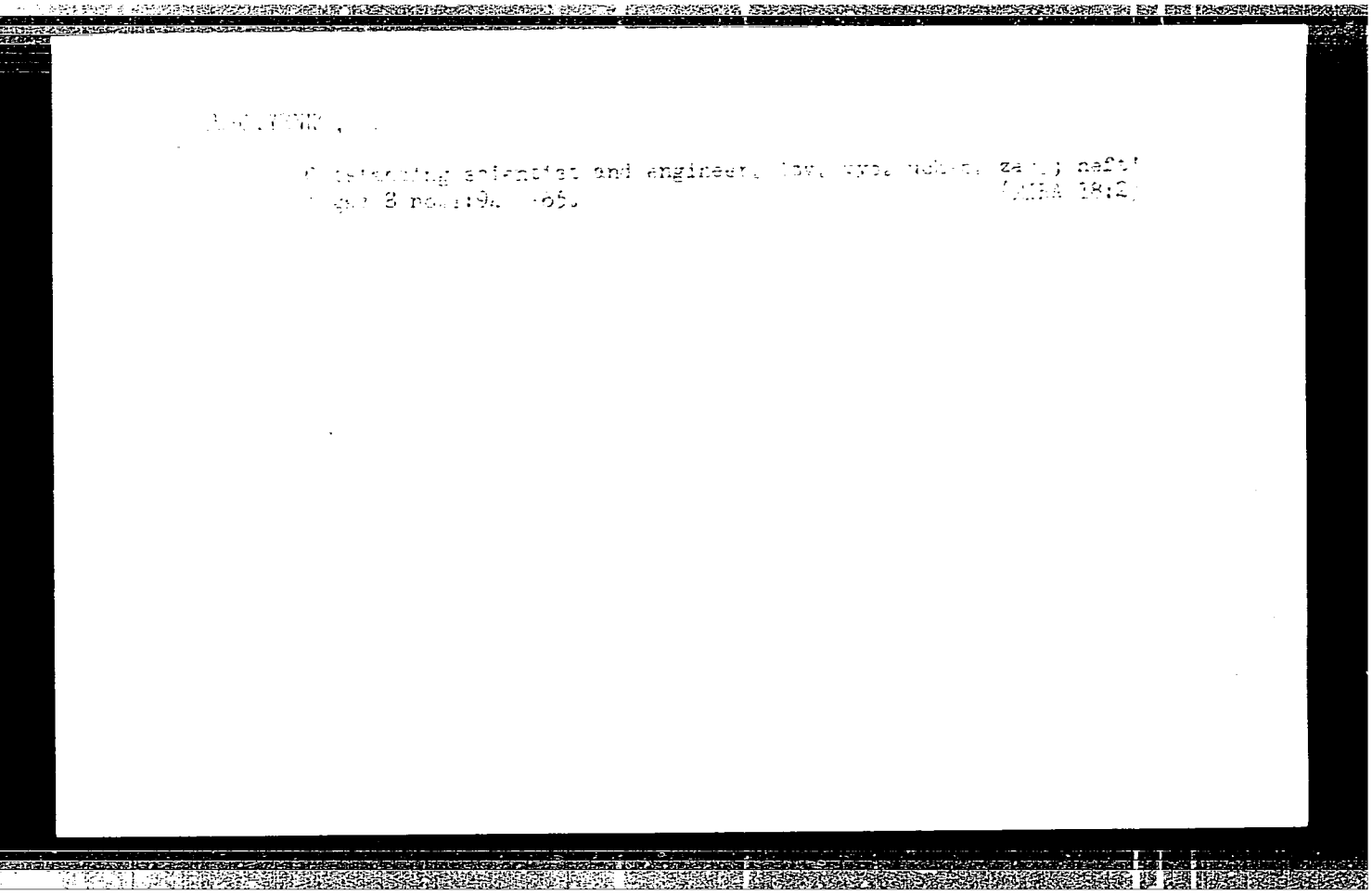
Anomalous electrical ....

the maxima on the emf/concentration curves for the annealed specimens were slightly higher than those for cold-worked material. The anomalous increase in the electrical resistance was observed also in specimens annealed at lower temperatures; the magnitude of this effect increased with increasing annealing temperature, reached a maximum after annealing at 700. ^{o}C and stayed at this level up to annealing temperatures of 1 100 ^{o}C. The results of the last series of experiments are reproduced in Fig. 6, where the microhardness (kg/mm^2) of the Pd-19.3% W alloy, cold-worked to 50% reduction, is plotted against the annealing temperature, curve 1 relating to specimens cooled slowly (100 - 120 ^{o}C/hour) after annealing, curve 2 to material cooled at a faster rate and curve 3 to water-quenched specimens. Analysis of the results obtained led to the conclusion that the formation of the K-state is a result of at least two processes: disorder-order transformation and a change in the electron structure of the atoms, each process affecting different properties of the alloys. The

Card 3/5

VLADYMKO, V., zhurnalist (Kiyev); SERGIYENKO, S. [Serhiienko, S.], zhurnalist (Kiyev)

Bioelectric current from a tape recorder. Nauka i zhyttia 12 no.7:40-41 Jl '62. (MIRA 16:1)
(Electrophysiology) (Electrotherapeutics)



OGENGENDEN, N.Ye.; SERGIYENKO, S.F.

Service life of coal mine suction pumps. Sbor.DonUGI no.22: 97-103 '61. (MIRA 15:6)
(Hydraulic mining--Equipment and supplies) (Pumping machinery)

SOV/130-59-1-6/21

AUTHORS: Prokhorenko K.K., Shchekin, N.P. and Sergiyenko S.M.

TITLE: Influence of some Technological Factors on the Quality of Structural Steel (Vliyaniye nekotorykh tekhnologicheskikh faktorov na kachestvo konstruktsionnoy stali)

PERIODICAL: Metallurg, 1959, Nr 1, pp 11-14 (USSR)

ABSTRACT: At the Kulebaki metallurgical works objects (rail tyres and gear blanks) made of types 30 KhN3A and 35 KhGSA and other steels are frequently defective because of longitudinal surface cracks and blowholes both under the surface and in deeper layers of the ingots and non-metallic inclusions. The steels are melted in oil-fired (air atomization) basic open hearth furnaces with careful exclusion of moisture from the charge, cast into two ladles through a bifurcated runner and bottom poured into big-end-up, twelve-sided 2.5 tonne moulds with hot tops. The authors describe a special investigation at the works, in which works-made firebrick hollow-ware was used, to find ways of eliminating the flaws. It was found that increasing the quantity of aluminium in deoxidation failed by itself to prevent blowholes and increasing deoxidation time led to a higher incidence of these flaws (Figs 1 and 2 show

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Influence of some Technological Factors on the Quality of Structural Steel

percentage of ingots with blowholes as functions of aluminium consumption, g/tonne and duration of deoxidation, min, respectively). Replacement of preliminary deoxidation with 12% ferrosilicon by deoxidation in the ladle led to a reduction of gas-blowhole flawed ingots from 4.66 to 3.55% (23 heats). Trapping of skin in the metal during filling of the ingot mould was found to be a cause of blowholes: this could be reduced by increasing pouring speeds and eliminated by top pouring (Table 1). Examination of the non-metallic inclusions appearing in tyres and blanks during their mechanical working showed them to consist partly of the slag floating on the metal surface together with some hollow-ware debris. The authors conclude that curling of the skin directs the inclusions into the body of the ingot since traces of skin were found near non-metallic inclusions in blanks. Tests showed (Table 2) that with increasing ingot-mould filling speeds the incidence of large non-metallic inclusions decreases. With filling speeds of 700-800 mm/min these flaws are absent. But changes in deoxidizing practice did not

Influence of some Technological Factors on the Quality of Structural Steel

affect the incidence of large non-metallic inclusions appearing in machining of blanks and tyres. Increasing mould filling speed was found to increase the incidence of longitudinal hot cracks (Table 3), which occurred mostly along corners. The use of a rounded ingot mould shape (Fig 3b) reduced this and higher filling speeds became possible (Table 4), but for complete elimination top-pouring through a tundish was necessary, and this increased the incidence of transverse cracks. It was found that pre-tapping metal temperatures in the furnace of 1620-1630°C (measured with platinum/platinum-rhodium immersion couples) corresponded to minimal longitudinal cracking in 30KhN3A steel. Surface tears during forging

were closely linked with longitudinal cracks and were reduced by the same measures and also by slowing down the cooling of ingots by this steel.

There are 3 figures and 5 tables.

S/598/61/000/006/004/034
D245/D303

AUTHORS: Lukashenko, E.Ye., Kramnik, V.Yu., Garmata V.A., and Sergiyenko, S.N.

TITLE: Developing and introducing the method of titanium tetrachloride in retorts without inserting a reaction vessel

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 6, 1961. Metallotermiya i elektrokhimiya titana, 23 - 26

TEXT: The authors carried out 38 experiments in which, for varying conditions of feed rate, temperature, etc., magnesiothermal reduction of $TiCl_4$ in a single-zone reactor was compared with the same process carried out using an inserted stainless steel reaction vessel. The results show that the single-zone process utilized 50 - 60 % of the reactor volume as against 35 - 40 % for the other process, that the cycle removal of Ti sponge increased by 50 - 60 %, that labor productivity increased by about 30 % and that the quali-

Card 1/2

S/137/62/000/006/034/163
A006/A101

AUTHORS: Lukashenko, E. Ye., Kramnik, V. Yu., Garmata, V. A., Sergiyenko, S.N.

TITLE: Development and assimilation of magnesium-thermal reduction of titanium tetrachloride in retorts without an inserted reaction beaker

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 14, abstract 6G100 (In collection: "Titan i yego splavy", no. 6, Moscow, AN SSSR, 1961, 23 - 26)

TEXT: Industrial experiments of reducing and vacuum-separating $TiCl_4$ in retorts without beakers make it possible 1) to raise the coefficient of useful utilization of the reactor volume from 35 - 40 to 50 - 60%, and the cyclic yield of Ti-sponge by 50 - 60%; 2) to raise the hourly output of reduction and separation furnaces by 30 - 50%; 3) to raise the labor efficiency of the main production staff by 30% in this conversion department. Moreover, apparatus without beakers assure the production of high-quality Ti-sponge.

[Abstracter's note: Complete translation] G. Svodtseva

Card 1/1

LUKASHENKO, E.Ye.; KRAMNIK, V.Yu.; GARMATA, V.A.; SERGIYENKO, S.N.;
Prinimali uchastiye: KARGIN, V.M., inzh.; KISELEV, O.G., inzh.;
PETRUN'KO, A.N., inzh.; MASLENNIKOV, I.P., inzh.

Developing and mastering the method of thermochemical reduction of titanium tetrachloride by magnesium in retorts without inserted reaction sleeves. Titan i ego splavy no.6:23-26 '61. (MIRA 14:11)
(Titanium--Metallurgy)

SERGIYENKO, S.P.

LOZGAVHEV, Pavel Mikhaylovich; SERGIYENKO, S.P., professor, redaktor; KUZIN, N.V., vedushchiy redaktor; MUKHINA, E.A., tekhnicheskiy redaktor.

[Development of the Sovet technology of distilling petroleum and mazut] Razvitie otechestvennoi tekhniki peregonki nefti i mazuta. Moskva, Gos.nauchno-tekhn.izd-vo neft.i gorno-toplivnoi lit-ry, 1957. 166 p. (MLRA 10:6)
(Petroleum--Refining)

PRIKHOT'KO, A F

24(7) P3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

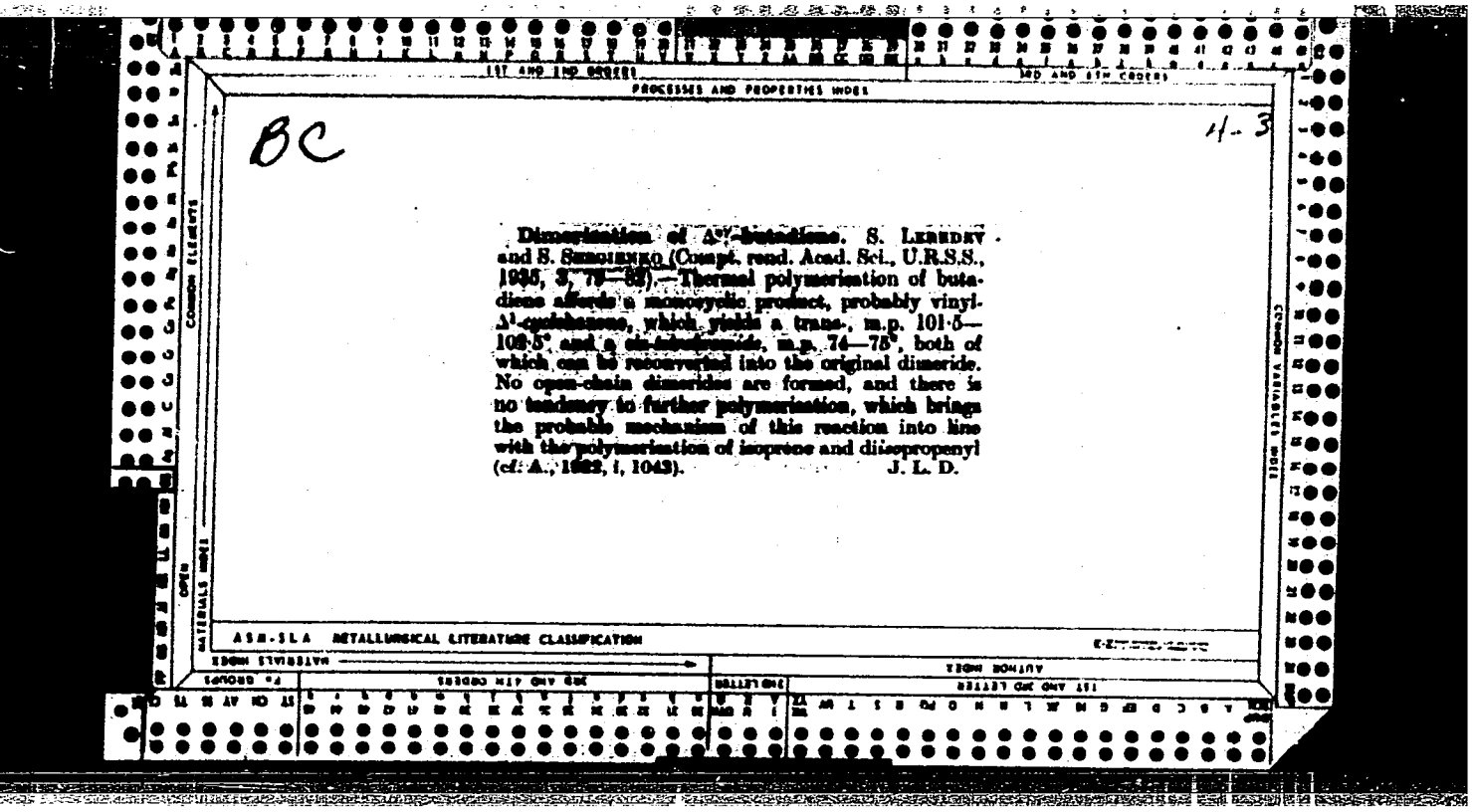
Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Lazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Landsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Milyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Olauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Card 22/30

SERGIYENKO, S.R.

Program for the building of the communist society. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol.nauk no.5:3-8 '61. (MIRA 14:11)
(Turkmenistan--Industries) (Turkmenistan--Science)



BC

1/- 3

Dimerisation of Δ^{1}-butadiene. S. LEBEDEV and S. SEMENENKO (Compt. rend. Acad. Sci., U.R.S.S., 1935, 3, 79—88).—Thermal polymerisation of butadiene affords a monocyclic product, probably vinyl-Δ^{1}-cyclohexene, which yields a *trans*-, m.p. 101·5—102·5°, and a *cis*-dibenzamide, m.p. 74—75°, both of which can be reconverted into the original dimeride. No open-chain dimerides are formed, and there is no tendency to further polymerisation, which brings the probable mechanism of this reaction into line with the polymerisation of isoprene and diisopropenyl (cf. A., 1932, 1, 1043). J. L. D.

1ST AND 2ND ORDERS

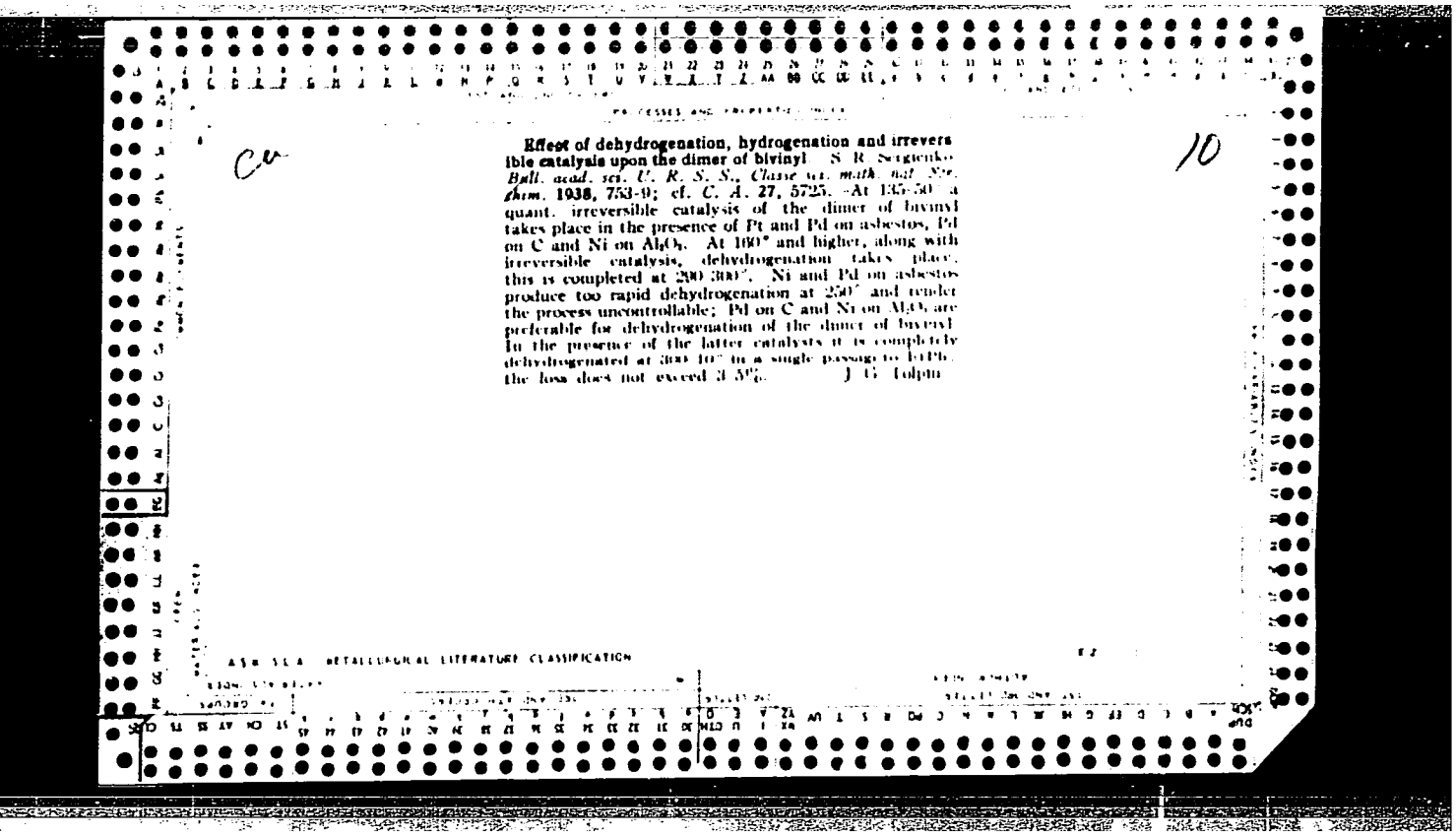
PROCESSES AND PROPERTIES INDEX

BC

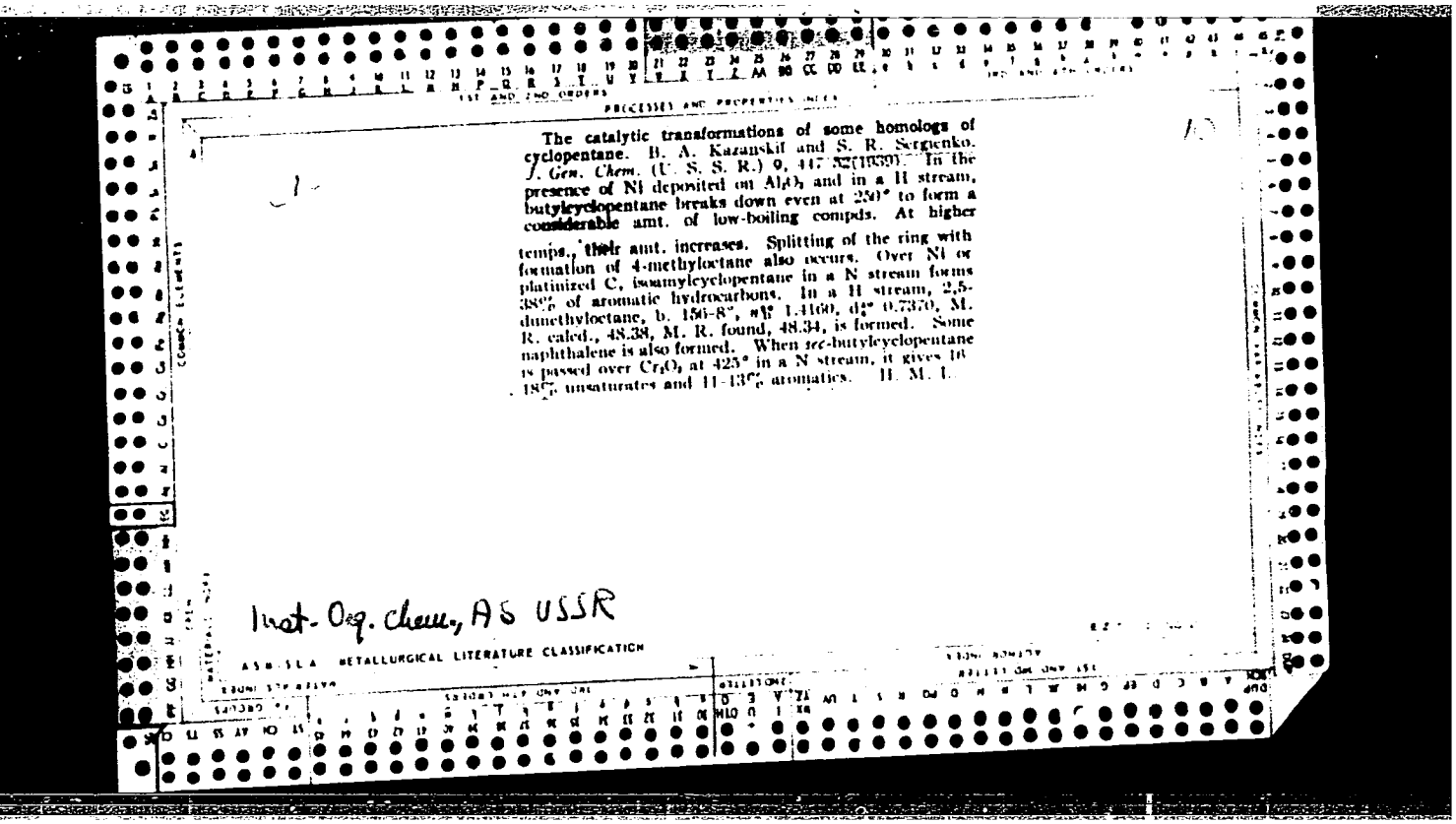
A-3

Dimerisation of $\Delta^{\alpha\gamma}$-butadiene. S. V. LEBEDEV and S. R. SERGIENKO (J. Gen. Chem. Russ., 1935, 5, 1830—[illegible]).—Divinyl is converted into Δ^{3}-*cyclo*hexenylethylene (I) by heating at 150° for 120 hr.; (I) yields *cis*-, m.p. 7[illegible]—75°, and *trans*-3 : 4-*dibromo*-1-*αβ-dibromoethylcyclohexane*, m.p. 101·5°, and *α-bromoethyl*-, b.p. 102—104°/20 mm., and *αβ-dibromoethyl-Δ^{3}-cyclohexene*, b.p. 105—118°/3 mm., with Br in Et_2O at 0°. (I) is very gradually converted at 150° into Δ^{1}-*cyclo*hexenylethylene. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Effect of dehydrogenation, hydrogenation and irreversible catalysis upon the dimer of bivinyl S. R. Sergienko. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat. Sér. chim.* **1938**, 753-9; cf. *C. A.* **27**, 5725. At 135-50° a quant. irreversible catalysis of the dimer of bivinyl takes place in the presence of Pt and Pd on asbestos, Pd on C and Ni on Al_2O_3. At 180° and higher, along with irreversible catalysis, dehydrogenation takes place; this is completed at 200-300°. Ni and Pd on asbestos produce too rapid dehydrogenation at 250° and render the process uncontrollable; Pd on C and Ni on Al_2O_3 are preferable for dehydrogenation of the dimer of bivinyl. In the presence of the latter catalysts it is completely dehydrogenated at 300-10° in a single passage to 1-Ph; the loss does not exceed 3.5%. J. G. Tolpin



The catalytic transformations of some homologs of cyclopentane. B. A. Kazanskiĭ and S. R. Sergienko. *J. Gen. Chem.* (U. S. S. R.) 9, 447-52(1939). In the presence of Ni deposited on Al_2O_3 and in a H stream, butylcyclopentane breaks down even at 250° to form a considerable amt. of low-boiling compds. At higher temps., their amt. increases. Splitting of the ring with formation of 4-methyloctane also occurs. Over Ni or platinized C, isoamylcyclopentane in a N stream forms 38% of aromatic hydrocarbons. In a H stream, 2,5-dimethyloctane, b. 156-8°, n_D^{20} 1.4160, d_4^{20} 0.7370, M. R. calcd., 48.38, M. R. found, 48.34, is formed. Some naphthalene is also formed. When *sec*-butylcyclopentane is passed over Cr_2O_3 at 425° in a N stream, it gives 16-18% unsaturates and 11-13% aromatics. H. M. L.

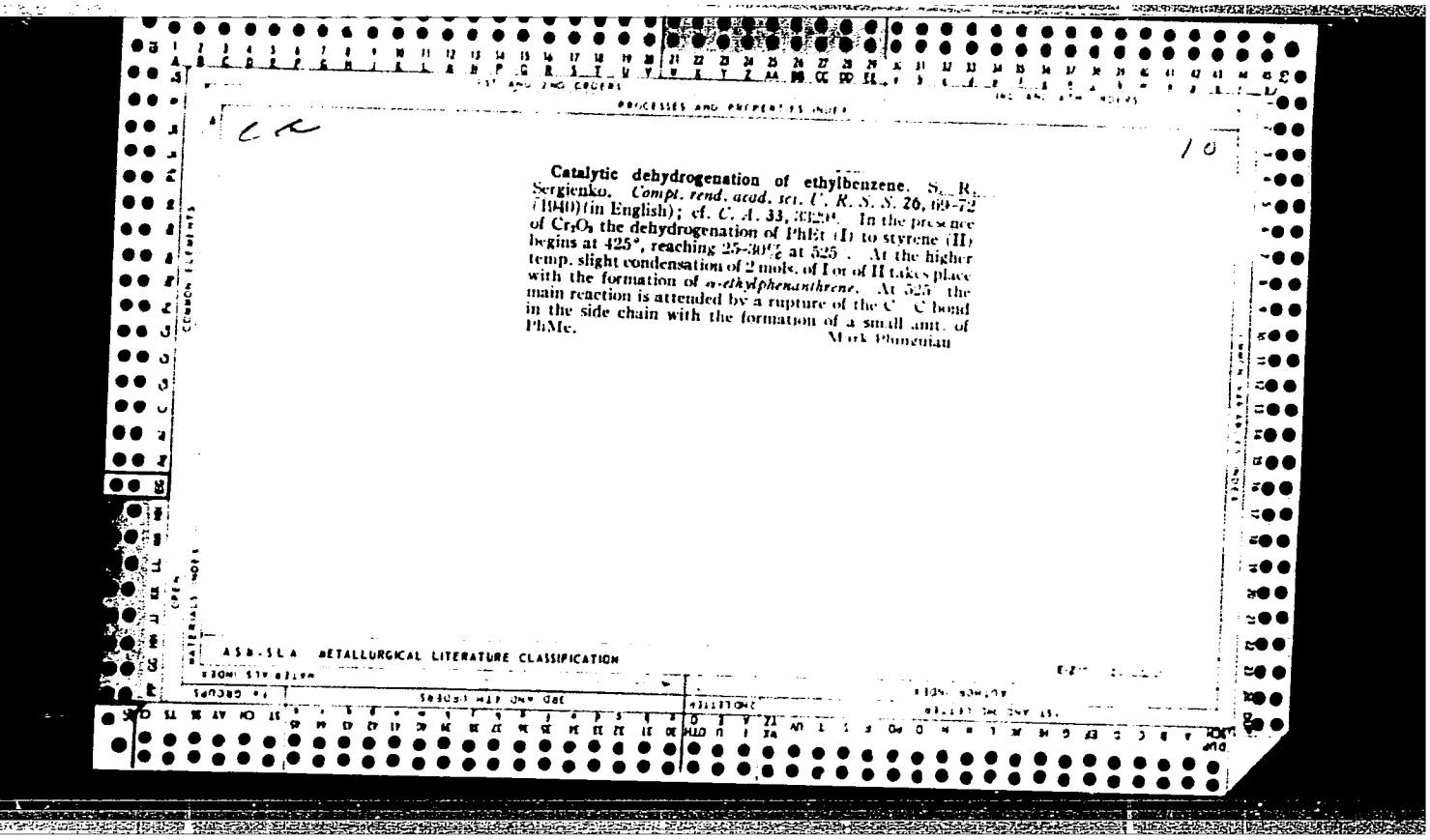
Inst. Org. Chem., AS USSR

METALLURGICAL LITERATURE CLASSIFICATION

Change of the octane number of gasoline due to the transformation of hydrocarbons of the cyclopentane series into paraffins in the presence of hydrogen. B. A. Kazanskii and S. R. Sergienko. *Compt. rend. acad. sci. U. R. S. S.* **25**, 596-7 (1939) (in English); cf. *C. A.* **33**, 9280.—The 60-122° fraction from Grozny gasoline was treated with $H_2SO_4.H_2O$ to remove the aromatic hydrocarbons and the resulting material was dehydrogenated by the Zelinskii method and again treated with $H_2SO_4.H_2O$, a product being obtained which b. 65-120° and has 65 octane no. The latter material was passed with excess H over $Ni\text{-}Al_2O_3$ catalyst at 280-300° at the rate of 0.6 cc./hr. to rupture cyclopentane rings with formation of paraffinic hydrocarbons. The product b. 35-122° and has 52 octane no.

George Ayers

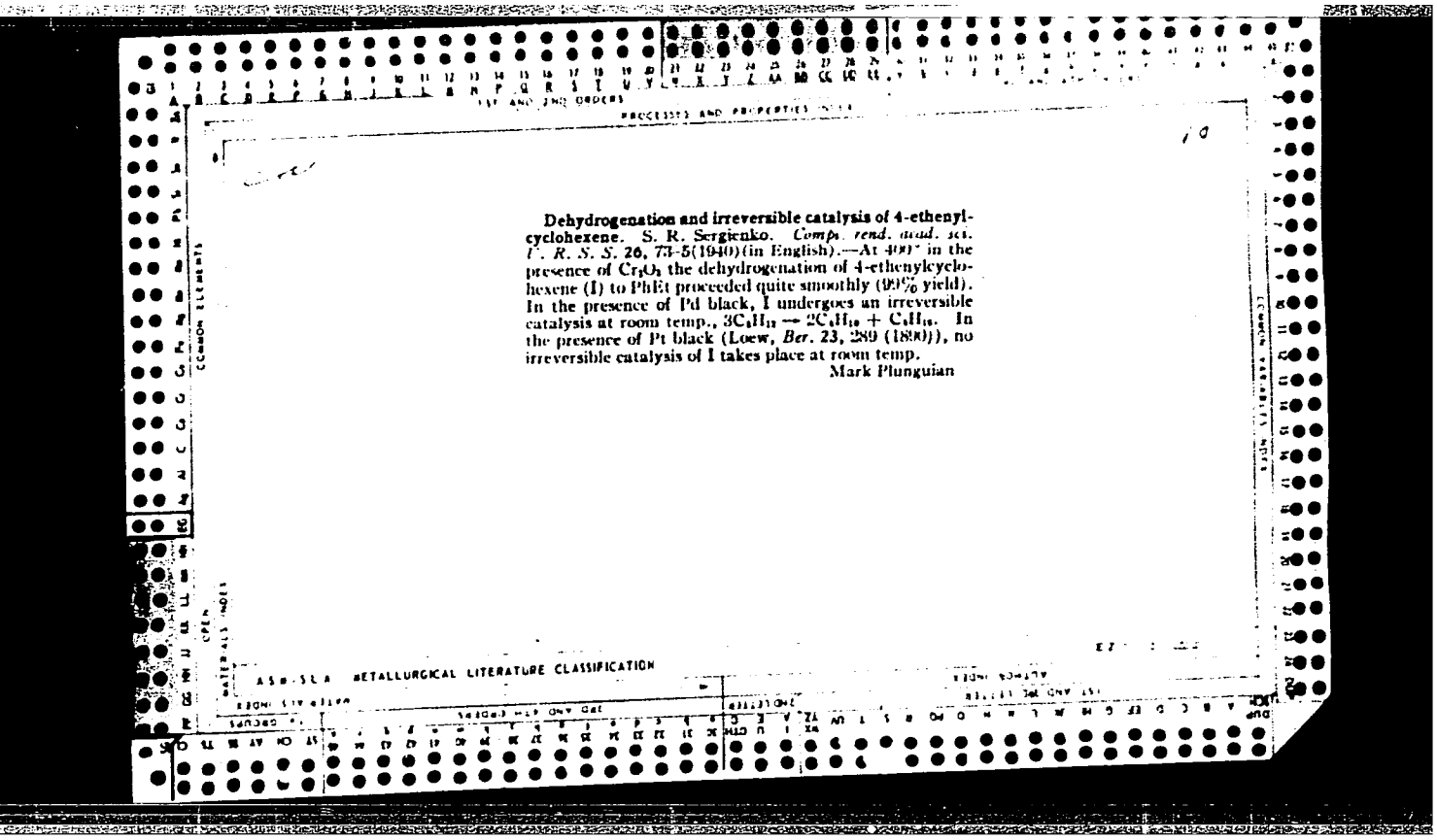
A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



Catalytic dehydrogenation of ethylbenzene. S. R. Sergienko. *Compt. rend. acad. sci. U. R. S. S.* 26, 69-72 (1940) (in English); cf. *C. A.* 33, 3220. In the presence of Cr_2O_3 the dehydrogenation of PhEt (I) to styrene (II) begins at 425°, reaching 25–30% at 525°. At the higher temp. slight condensation of 2 mols. of I or of II takes place with the formation of *α-ethylphenanthrene*. At 525° the main reaction is attended by a rupture of the C–C bond in the side chain with the formation of a small amt. of PhMe.

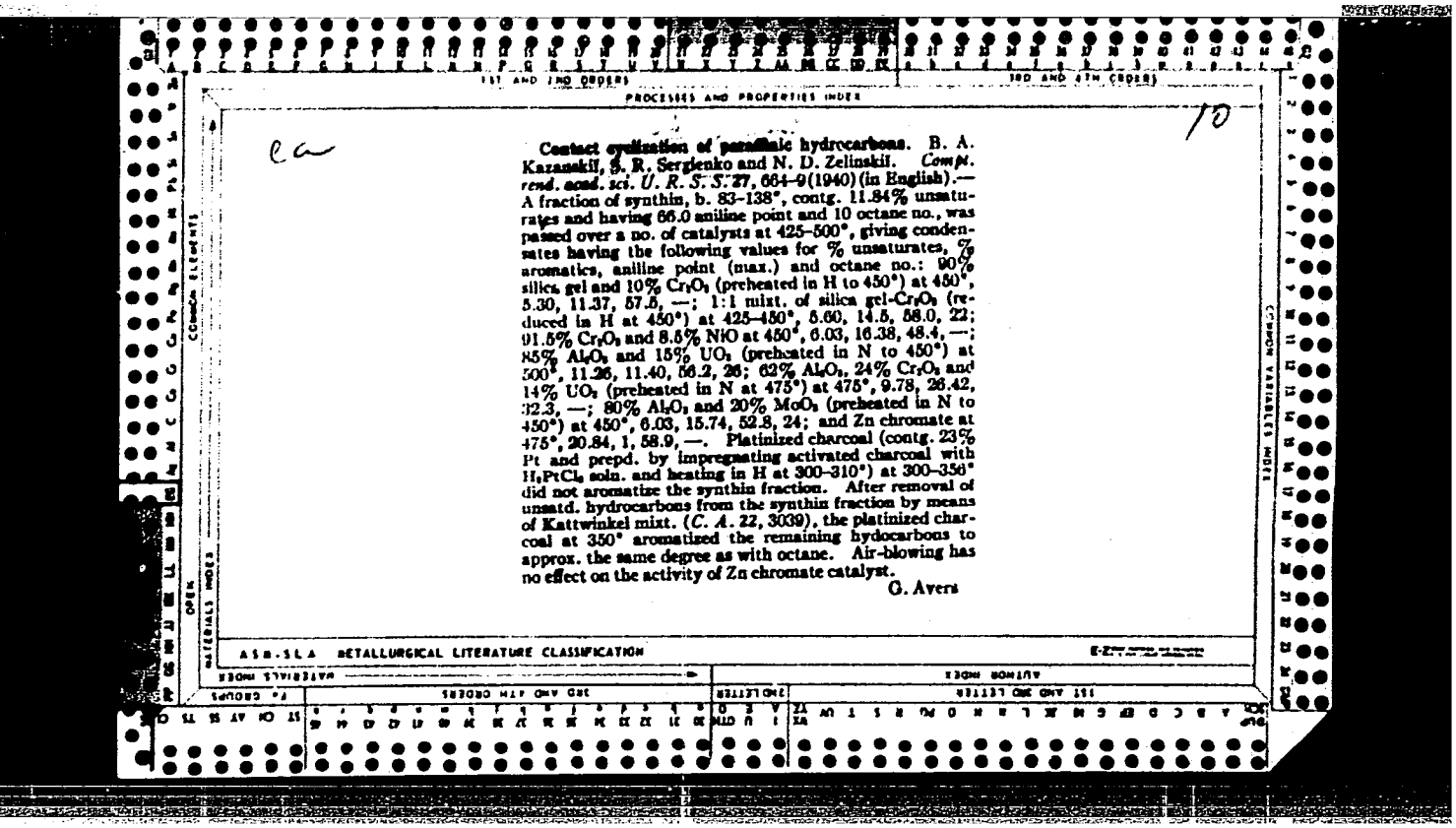
Mark Plotnikow

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Dehydrogenation and irreversible catalysis of 4-ethenylcyclohexene. S. R. Sergienko. *Comptes rend. acad. sci. U. R. S. S.* **26**, 73–5(1940)(in English).—At 400° in the presence of Cr_2O_3 the dehydrogenation of 4-ethenylcyclohexene (I) to PhEt proceeded quite smoothly (99% yield). In the presence of Pd black, I undergoes an irreversible catalysis at room temp., $3C_8H_{12} \rightarrow 2C_8H_{10} + C_8H_{16}$. In the presence of Pt black (Loew, *Ber.* **23**, 289 (1890)), no irreversible catalysis of I takes place at room temp.

Mark Plunguian



PROCESSES AND PROPERTIES INDEX

ca

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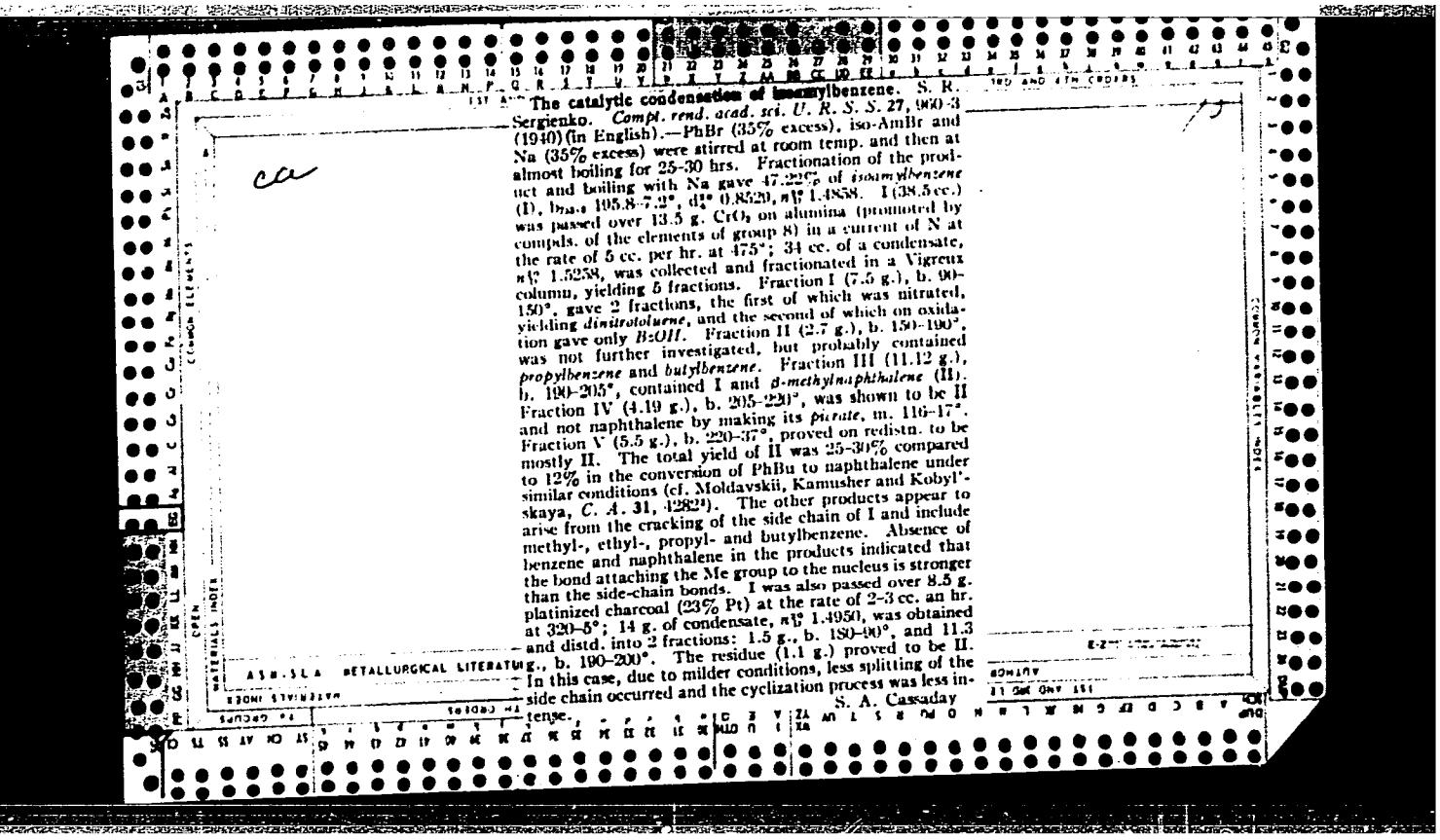
Contact cyclization of paraffinic hydrocarbons. B. A. Kazanskii, S. R. Sergienko and N. D. Zelinskii. *Compt. rend. acad. sci. U. R. S. S.* 27, 664–9(1940)(in English).—A fraction of synthin, b. 83–138°, contg. 11.84% unsaturates and having 66.0 aniline point and 10 octane no., was passed over a no. of catalysts at 425–500°, giving condensates having the following values for % unsaturates, % aromatics, aniline point (max.) and octane no.: 90% silica gel and 10% Cr_2O_3 (preheated in H to 450°) at 450°, 5.30, 11.37, 57.5, —; 1:1 mixt. of silica gel-Cr_2O_3 (reduced in H at 450°) at 425–450°, 5.60, 14.5, 58.0, 22; 91.5% Cr_2O_3 and 8.5% NiO at 450°, 6.03, 16.38, 48.4, —; 85% Al_2O_3 and 15% UO_3 (preheated in N to 450°) at 500°, 11.26, 11.40, 56.2, 26; 62% Al_2O_3, 24% Cr_2O_3 and 14% UO_3 (preheated in N at 475°) at 475°, 9.78, 26.42, 32.3, —; 80% Al_2O_3 and 20% MoO_3 (preheated in N to 450°) at 450°, 6.03, 15.74, 52.8, 24; and Zn chromate at 475°, 20.84, 1, 58.9, —. Platinized charcoal (contg. 23% Pt and prepd. by impregnating activated charcoal with H_2PtCl_6 soln. and heating in H at 300–310°) at 300–350° did not aromatize the synthin fraction. After removal of unsatd. hydrocarbons from the synthin fraction by means of Kattwinkel mixt. (*C. A.* 22, 3039), the platinized charcoal at 350° aromatized the remaining hydocarbons to approx. the same degree as with octane. Air-blowing has no effect on the activity of Zn chromate catalyst.

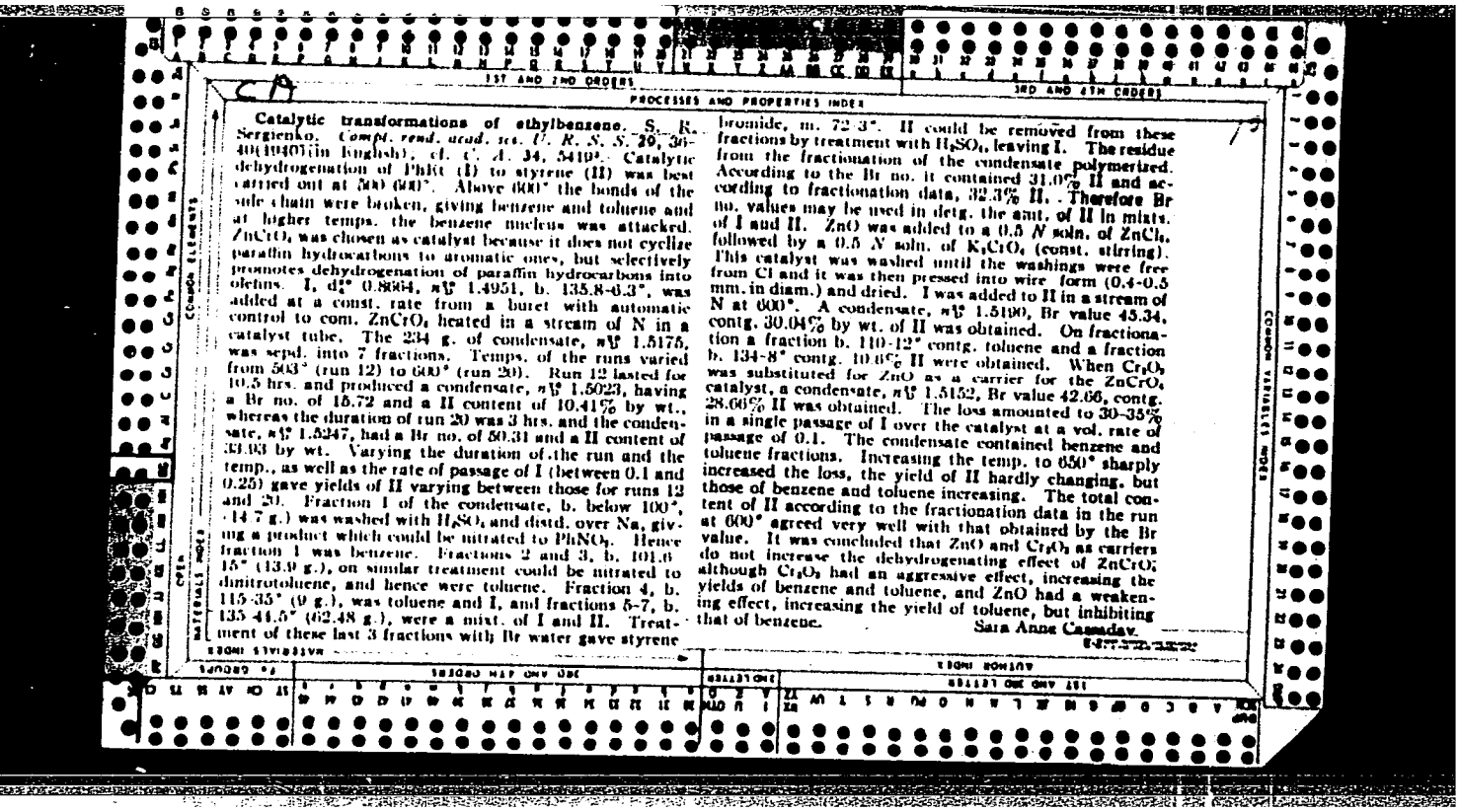
G. Avers

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



The catalytic condensation of isoamylbenzene. S. R. Sergienko. *Compt. rend. acad. sci. U. R. S. S.* 27, 900-3 (1940) (in English).—PhBr (35% excess), iso-AmBr and Na (35% excess) were stirred at room temp. and then at almost boiling for 25-30 hrs. Fractionation of the product and boiling with Na gave 47.22% of *isoamylbenzene* (I), $b_{744.6}$ 195.8-7.2°; d_4^{20} 0.8520, n_D^{20} 1.4858. I (38.5 cc.) was passed over 13.5 g. CrO_3 on alumina (promoted by compds. of the elements of group 8) in a current of N at the rate of 5 cc. per hr. at 475°; 34 cc. of a condensate, n_D^{20} 1.5238, was collected and fractionated in a Vigreux column, yielding 5 fractions. Fraction I (7.5 g.), b. 90-150°, gave 2 fractions, the first of which was nitrated, yielding *dinitrotoluene*, and the second of which on oxidation gave only *BzOH*. Fraction II (2.7 g.), b. 150-190°, was not further investigated, but probably contained *propylbenzene* and *butylbenzene*. Fraction III (11.12 g.), b. 190-205°, contained I and *β-methylnaphthalene* (II). Fraction IV (4.19 g.), b. 205-220°, was shown to be II and not naphthalene by making its *picrate*, m. 116-17°. Fraction V (5.5 g.), b. 220-37°, proved on redistn. to be mostly II. The total yield of II was 25-30% compared to 12% in the conversion of PhBu to naphthalene under similar conditions (cf. Moldavskii, Kamusher and Kobyl'skaya, *C. A.* 31, 1282[2]). The other products appear to arise from the cracking of the side chain of I and include methyl-, ethyl-, propyl- and butylbenzene. Absence of benzene and naphthalene in the products indicated that the bond attaching the Me group to the nucleus is stronger than the side-chain bonds. I was also passed over 8.5 g. platinized charcoal (23% Pt) at the rate of 2-3 cc. an hr. at 320-5°; 14 g. of condensate, n_D^{20} 1.4950, was obtained and distd. into 2 fractions: 1.5 g., b. 180-90°, and 11.3 g., b. 190-200°. The residue (1.1 g.) proved to be II. In this case, due to milder conditions, less splitting of the side chain occurred and the cyclization process was less intense.

S. A. Cassaday



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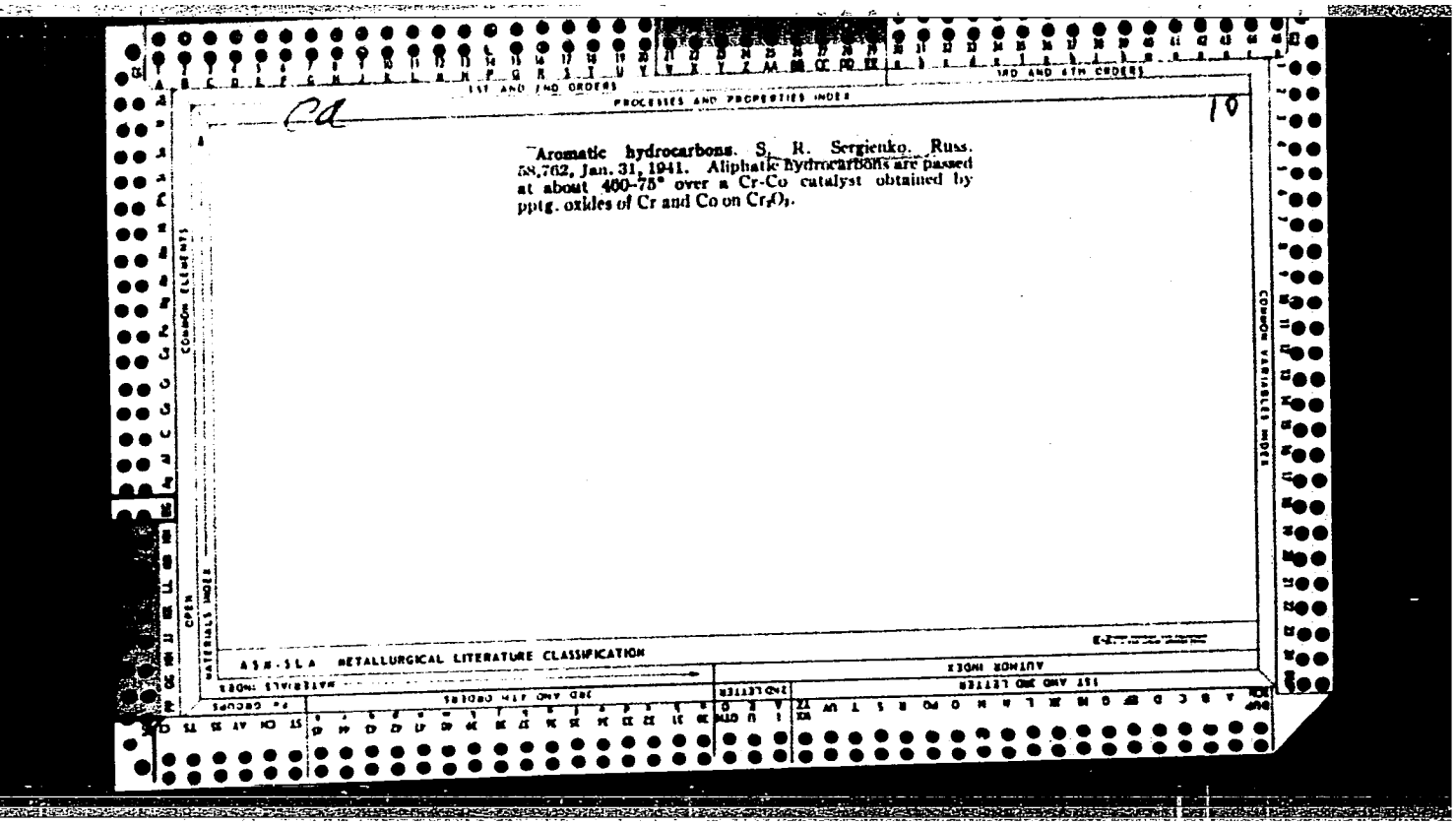
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Catalytic transformations of ethylbenzene. S. R. Sergienko. *Compt. rend. acad. sci. U. R. S. S.* **29**, 36-40(1940)(in English). cf. *C. A.* **34**, 5419⁹. Catalytic dehydrogenation of PhEt (I) to styrene (II) was best carried out at 500-600°. Above 600° the bonds of the side chain were broken, giving benzene and toluene and at higher temps. the benzene nucleus was attacked. $ZnCrO_4$ was chosen as catalyst because it does not cyclize paraffin hydrocarbons to aromatic ones, but selectively promotes dehydrogenation of paraffin hydrocarbons into olefins. I, d_4^{20} 0.8664, n_D^{20} 1.4951, b. 135.8-6.3°, was added at a const. rate from a buret with automatic control to com. $ZnCrO_4$ heated in a stream of N in a catalyst tube. The 234 g. of condensate, n_D^{20} 1.5175, was sepd. into 7 fractions. Temps. of the runs varied from 503° (run 12) to 600° (run 20). Run 12 lasted for 10.5 hrs. and produced a condensate, n_D^{20} 1.5023, having a Br no. of 15.72 and a II content of 10.41% by wt., whereas the duration of run 20 was 3 hrs. and the condensate, n_D^{20} 1.5247, had a Br no. of 50.31 and a II content of 33.93 by wt. Varying the duration of the run and the temp., as well as the rate of passage of I (between 0.1 and 0.25) gave yields of II varying between those for runs 12 and 20. Fraction 1 of the condensate, b. below 100°, (14.7 g.) was washed with H_2SO_4 and distd. over Na, giving a product which could be nitrated to $PhNO_2$. Hence fraction 1 was benzene. Fractions 2 and 3, b. 101.6-15° (13.9 g.), on similar treatment could be nitrated to dinitrotoluene, and hence were toluene. Fraction 4, b. 115-35° (9 g.), was toluene and I, and fractions 5-7, b. 135-44.5° (62.48 g.), were a mixt. of I and II. Treatment of these last 3 fractions with Br water gave styrene bromide, m. 72-3°. II could be removed from these fractions by treatment with H_2SO_4, leaving I. The residue from the fractionation of the condensate polymerized. According to the Br no. it contained 31.0% II and according to fractionation data, 32.3% II. Therefore Br no. values may be used in detg. the amt. of II in mixts. of I and II. ZnO was added to a 0.5 *N* soln. of $ZnCl_2$, followed by a 0.5 *N* soln. of K_2CrO_4 (const. stirring). This catalyst was washed until the washings were free from Cl and it was then pressed into wire form (0.4-0.5 mm. in diam.) and dried. I was added to II in a stream of N at 600°. A condensate, n_D^{20} 1.5190, Br value 45.34, contg. 30.04% by wt. of II was obtained. On fractionation a fraction b. 110-12° contg. toluene and a fraction b. 134-8° contg. 10.6% II were obtained. When Cr_2O_3 was substituted for ZnO as a carrier for the $ZnCrO_4$ catalyst, a condensate, n_D^{20} 1.5152, Br value 42.66, contg. 28.66% II was obtained. The loss amounted to 30-35% in a single passage of I over the catalyst at a vol. rate of passage of 0.1. The condensate contained benzene and toluene fractions. Increasing the temp. to 650° sharply increased the loss, the yield of II hardly changing, but those of benzene and toluene increasing. The total content of II according to the fractionation data in the run at 600° agreed very well with that obtained by the Br value. It was concluded that ZnO and Cr_2O_3 as carriers do not increase the dehydrogenating effect of $ZnCrO_4$; although Cr_2O_3 had an aggressive effect, increasing the yields of benzene and toluene, and ZnO had a weakening effect, increasing the yield of toluene, but inhibiting that of benzene.

Sara Anne Casnadav.



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Aromatic hydrocarbons. S. R. Sergienko. Russ. 58,762, Jan. 31, 1941. Aliphatic hydrocarbons are passed at about 400–75° over a Cr-Co catalyst obtained by ppte. oxides of Cr and Co on Cr_2O_3.

SERGUIENKO, S. R.

"The relative Efficiencies of Laboratory fractionating Columns of various Construction." Kasansky, B. A., Liberman, A. L., Serguienko, S. R., Tarassowa, G. A., and Plate, A. F. (p. 122)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1942, Vol 12, No 1-2.

SERGIYENKO, S. R.

USSR/Petroleum - Cracking
Petroleum - Analysis

Jun 48

"Development of Soviet Research in the Field of the Chemistry and Chemical Technology of Petroleum," S. R. Sergiyenko, Inst of Mineral Fuels, Acad Sci USSR, 22 3/4 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 6

Describes Russian research in this field. Article is divided into six sections: (1) the cracking process; (2) catalysis; (3) composition and chemical properties of petroleum; (4) physical and physicochemical properties of petroleum and petroleum

12/49T100

PA 12/49T100

USSR/Petroleum - Cracking (Contd) Jun 48

products; (5) thorough chemical processing of petroleum and petroleum products as the basis of the modern petroleum processing industry; (6) conclusions. Submitted 15 Feb 48.

12/49T100

SERGIYENKO, S.R.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Petroleum, Lubricants, and Asphalt

Role of Russian scientists and engineers in the development of the chemistry and technology of petroleum. S. R. Sergienko. *Trudy Inst. Neftt. Akad. Nauk S.S.S.R.* 1, No. 1, 90–120(1949).—Historical review with 40 references.
B. Z. Kamich

PA 27/49T21

USSR/Chemistry - Aromatization
Chemistry - Catalysis

Jan/Feb 49

"Catalytic Conversion of 2-Orthotolylbutene-2," S. R. Sergiyenko, N. D. Zelinskiy, Inst Petroleum, Acad Sci USSR, 6 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1

Studies possibility of obtaining condensed aromatic systems through catalytic dehydrocyclization of ortho-double substitution of benzene. Proves that 2-orthotolylbutene-2 in the presence of a tri-component oxide catalyst undergoes dehydrocyclization with the formation of α-methylnephthalene. Along

27/49T21

USSR/Chemistry - Aromatization (Contd) Jan/Feb 49

with process, a "shearing" reaction, or shortening of the side chain of the initial benzene homologue, also occurs. As a result, homologues lower than the initial one form, and are incapable of further cyclization. Submitted 26 Feb 48.

27/49T21

SERGIYENKI. S. R.

SERGIYENKO, S. A.

Sergiyenko, S. A. "The role of Russian ceramic chemistry in the development of industry," Trudy In-ta istorii Yestestvoznaniya (Akad. nauk SSSR), Vol III, 1949, p. 209-35

SO: U-3211, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1949)

(2) Chem

Sergienko, S. R.: Khimicheskoe Ispol'zovanie Prirodnykh i Promyshlennykh Gazov (Chemical Use of Natural and Industrial Gases). Kiev: Acad. Sci. U.S.S.R. 1951. 31 pp.

8-31-54

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Chemical Industry and
Miscellaneous Industrial Products

USSR/Petroleum - Refining Jun 51

"Chemical Basis of Contemporary Oil Refining," S. R. Sergiyenko, Inst of Petroleum, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 6, pp 803-812

Briefly reviews general progress of org chemistry in 20th century, especially in field of chemistry of hydrocarbons, emphasizing important role of Soviet science. Mentions some names of Soviet scientists and outlines their achievements as for example, B. A. Kazanskiy who, with his associates, studied in detail mechanism of splitting 205T98

USSR/Petroleum - Refining (Contd) Jun 51

naphthenes with 5-membered rings, N. D. Zelinskiy and his school, well known by their investigations of reactions of catalytic transformations of cyclic hydrocarbons. Submitted by Acad A. V. Topchiyev.

205T98

SERGIYENKO, S. R.

USSR/Chemistry - Polymerization, Jul 52
Liquid Fuels

"Investigation of the Interaction of Diolefins With Alkyl Halides in the Presence of Oxide Catalysts," S. R. Sergiyenko, A.A. Mikhnovskaya, Ye.V. Nozdrina

"Trudy Inst Nefti" Vol 2, pp 22-32

PA 243T6

At 250° and 36-37 atm, isopropyl chloride in the presence of zinc oxide is converted into a gas containing up to 90% of propene, some butene, and the following products of the polymerization of propene: trimer (34.1%) and higher polymers (20%). Branched

243T6

nonylenes predominate in the trimer fraction. Isoprene under the conditions described above is subjected principally to cyclic dimerization. Alkylation of isoprene with isopropyl chloride did not take place under the conditions of the expt. Methylations of olefins were successfully carried out, however (cf. A. P. El'tekov's work which led to the synthesis of triptane and B. L. Moldavskiy's research, "Zhur Obshch Khimii," Vol 16, No 3, p 427, 1946).

243T6

SERGIYENKO, S. R.

1. SERGIYENKO, S. R.; PARKINA, A. L.

2. USSR 600

4. Petroleum Industry

7. Development of the petroleum processing industry and scientific research in the field of petroleum processing during the Stalin five-year plans, Izv. AN SSSR Otd. tekh. nauk, No. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. [illegible], B. R. Prof.

2. USSR (600)

4. Petroleum Industry

7. Problems of the petroleum industry in the fifth five-year plan. Vestnik AN SSSR 22 no. 10. '52.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SERGIYENKO, S. R.

PA 234T28

USSR/Chemistry - Pharmaceuticals, 21 Oct 52
Solvents

"A Preparative Method of Obtaining Hydroxyethylmorpholine," S. R. Sergiyenko, Yu. A. Bedov, M. I. Krasavchenko

"Dok Ak Nauk SSSR" Vol 86, No 6, pp 1129-1131

The method of O. Kamm and J. Waldo for the prepn of morpholine derivs by the condensation of 2,2'-dichlorodiethyl ether with primary amines in the presence of alkali, is modified. Three moles of

234T28

monoethanolamine react with one mole of 2,2'-dichlorodiethyl ether to produce the oxyethylmorpholine and 2 moles of monoethanolamine hydrochloride, which crystalize only 3-4 hrs later. This permits the immediate distn of the reaction mixt. The method is thus based on cheap, commercially available materials. The yield is 60-65%. Presented by Acad A. V. Topchiyev 21 Aug 52.

234T28

SERGIENKO, S.R.; MIKHNOVSKAYA, A.A.; NOZDRINA, Ye.V.

Mechanism of the conversion of isopropyl chloride on zinc oxide. Doklady Akad. Nauk S.S.S.R. 87, 427-30 '52. (MLRA 5:11)
(CA 47 no.22:12208 '53)

USSR/Chemical Technology. Chemical Products and Their Application -- Treatment of natural gases and petroleum. Motor fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5527

Author: Sergiyenko, S. R., Delone, I. O., Davydov, B. E.

Institution: Academy of Sciences Azerbaydzhan SSR

Title: Removal of Tarry Substances From Diesel Fuels by the Method of Adsorption Chromatography

Original Publication: Tr. Vses. soveshch. po khimii i pererabotke nefti (18-24 sen. 1951). Baku, izd. AN AzSSR, 1953, 80-90

Abstract: No abstract

Card 1/1

TOPCHIYEV, A.V., akademik; SERGIYENKO, S.R.; SANIN, P.I.

S.S.Nametkin, an outstanding Soviet scientist. Trudy po ist.tekh. no.3:3-29 '53. (MLRA 7:5)
(Nametkin, Sergei Semenovich, 1876-1950) (Petroleum products--Analysis)

SERGIYENKO, S.R.

S.V.Lebedev, developer of artificial rubber. Trudy po ist. tekh. no.3:51-62 '53. (MLRA 7:5)
(Lebedev, Sergei Vasil'evich, 1874-1934)

SERGIYENKO, S. R.

Scientific Principles of Refining the High Molecular Fraction of Petroleum
Izv. AN AzSSR, No 9, 1953, pp 3-16

Discusses problems encountered in improving the efficiency of oil refining and in raising yields of light-colored petroleum products by including the high molecular-fraction in the refining. The processes of preparing the oil for refining and separation into chemically homgeneous fractions (tarry products, aromatic hydrocarbons, etc.) play an especially important role. (RZhKhim, No 21, 1954)

SO: Sum. No. 639, 2 Sep 55

SERGIYENKO, S.R.

Forerunners of petroleum distillation in Russia and the beginning stages of its development. Izv.AN SSSR Otd.tekh.nauk. no.11:1649-1659 N '53. (MLRA 6:12)

1. Predstavleno akademikom A.V.Topchiyevym.
(Petroleum--History) (Turpentine industry--History)

D Fuels

Fuel Abstracts
Vol. XV. No. 2
Feb. 1954
Natural Liquid
Fuels and Lubricants
Sources, Properties
and Treatments

1251. DEVELOPMENT OF SCIENCE OF PETROLEUM IN SOVIET UNION IN FIFTH FIVE YEAR PERIOD. (SUMMARY OF COORDINATING CONFERENCE IN BAKU). Serzienko, S.R. (Vestn. Akad. Nauk SSSR (J. Acad. Sci. U.S.S.R.), Aug. 1953, No.23, 72-79). Papers by over forty authors, directed towards coordinating plans for 1954, are summarized.

5-11-54 JJP

SERGIYENKO, S. R.

Expansion of [the role of] chemistry in the oil industry—the basic direction of development in the oil industry. S. R. Sergienko. *Neftyanoe Khoz.* 31, No. 2, 40–50(1953); *Referat. Zhur., Khim.* 1956, Abstr. No. 7083.—More severe processing methods for crude oils, giving a higher return of valuable products, are reviewed. The necessity for a preliminary treatment by sepg. the oil into resinous and hydrocarbon fractions is emphasized and the wider application of catalysis in the processing of the gaseous and resinous-asphaltic fractions of the oil is stressed. Attention is called to the necessity of more studies of the chem. compn. and mol. structure of the high-mol. fractions, as a necessary condition for developing rational methods of processing these fractions. N. Vasileff

SERGIYENKO, S.R.; ZHDANOVA, N.V.; TOPCHIYEV, A.V., akademik.

Conversions of diene compounds in the presence of oxide catalysts. Conversions of 2,3-dimethylbutadiene-1,3 over aluminosilicate. Dokl.AN SSSR 90 no.5:803-806 Je '53. (MLRA 6:5)

1. Akademiya nauk SSSR (for Topchiyev). (Diene compounds)